

CCTV Catalogue 2010



DVR and QUAD ▶

Cameras ▶

Video distribution ▶

IP Systems ▶

Monitors ▶

Kits ▶



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Company



The company

Founded in 1933, Fracarro is, today, one of the most important European companies in the field of the reception and distribution of audio video data signals and active security.

The synergy between the two activity divisions allows Fracarro to propose integrated solutions for the realization of intelligent buildings and homes. Within the Security division, Fracarro has offered for 25 years a complete range of products for the protection of people and the control of locations by designing and producing integrated anti-intrusion and video-surveillance systems. The company has always committed itself to guarantee high quality products and has paid particular attention to a Series of services specifically studied for the sector operators.

Certification ISO 9001

Fracarro Quality Management System is recognized by the CSQ in conformity with the ISO 9001:2000 regulation.



Conformity with the European Directives

Fracarro products are in conformity, where applicable, with the following European Directives:

- ▶ 2006/95/EC (LVD - Low voltage)
- ▶ 2004/108/EC (EMC - electromagnetic compatibility)

and with the relevant Italian actuation decrees, which means the products passed the tests foreseen by the harmonized technical regulations carried out by primary certified laboratories. These products are marked CE.

For further information relevant to the Fracarro Quality Policy, see our web site at www.fracarro.com/Quality



Services



Technical Support

Fracarro provides technical assistance to resolve any installation problems quickly. This service is available within each Fracarro company, with specialised staff ready to provide information and assistance for all projects. Service is even accessible through the fracarro.com website, where you can fill out the form in the Technical Assistance/Fracarro contact section.



Training

Fracarro has always been committed to provide installers with training relevant to new technological issues and has been constantly engaged all over Italy in organizing training courses in the event of exhibitions, road shows and even in collaboration with its customers or partners. Besides realizing technical support documents, such as Fracarro Notebooks and Fracarro News Magazine, the company today is involved in important training projects that aim at the professional growth of the sector.



Web site

With a new image and structure, the Fracarro web site is constantly updated with news and the initiatives of the company. In particular, the Technical Support Division provides installers with information to help them in their professional activity, thanks to a direct line with the headquarters personnel.

fracarro.com



DVR and QUAD



DVR Real time

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DVR and QUAD

DVR Real time

DVR-REALCH16

Digital video recorder designed for particularly advanced applications as concerns quality and recording speed. The powerful hardware MPEG4 compression system allows real time recording on all 16 connected cameras to have a smooth playback.

The **DVR-REALCH16** unit has 16 channels and 16 alarm inputs, supports up to 3 hard disks of 1 TB, and has a complete network support and a powerful 144-zone motion detector.

The convenient USB connection and the reliable DVD burner make the AVI file export easy and fast.

The DVR-REALCH16 supports powerful centralized monitoring software (CMS) that allows one to manage DVR groups remotely to meet any installation need. Equipped with a comfortable and intuitive graphic menu; easy to use with the remote control and the mouse.

DVR-REALCH16



Main features

- MPEG4 hardware compression
- Real Triplex (recording, playback, remote connection)
- Supports the central monitoring system (CMS)
- Quality and frame rate regulation available for each channel
- DVD burner
- VGA output

Other features

- USB 2.0
- Export AVI files (USB, network, DVD)
- Motion detection with 144 zones (5-level sensitivity)
- PTZ control
- Multi language graphic menu
- Complete network support (TPC/IP, PPPoE, DHCP, SMPT,DDNS)
- Jog-shuttle with remote control and mouse
- Pre-alarm recording (10 s) **New**

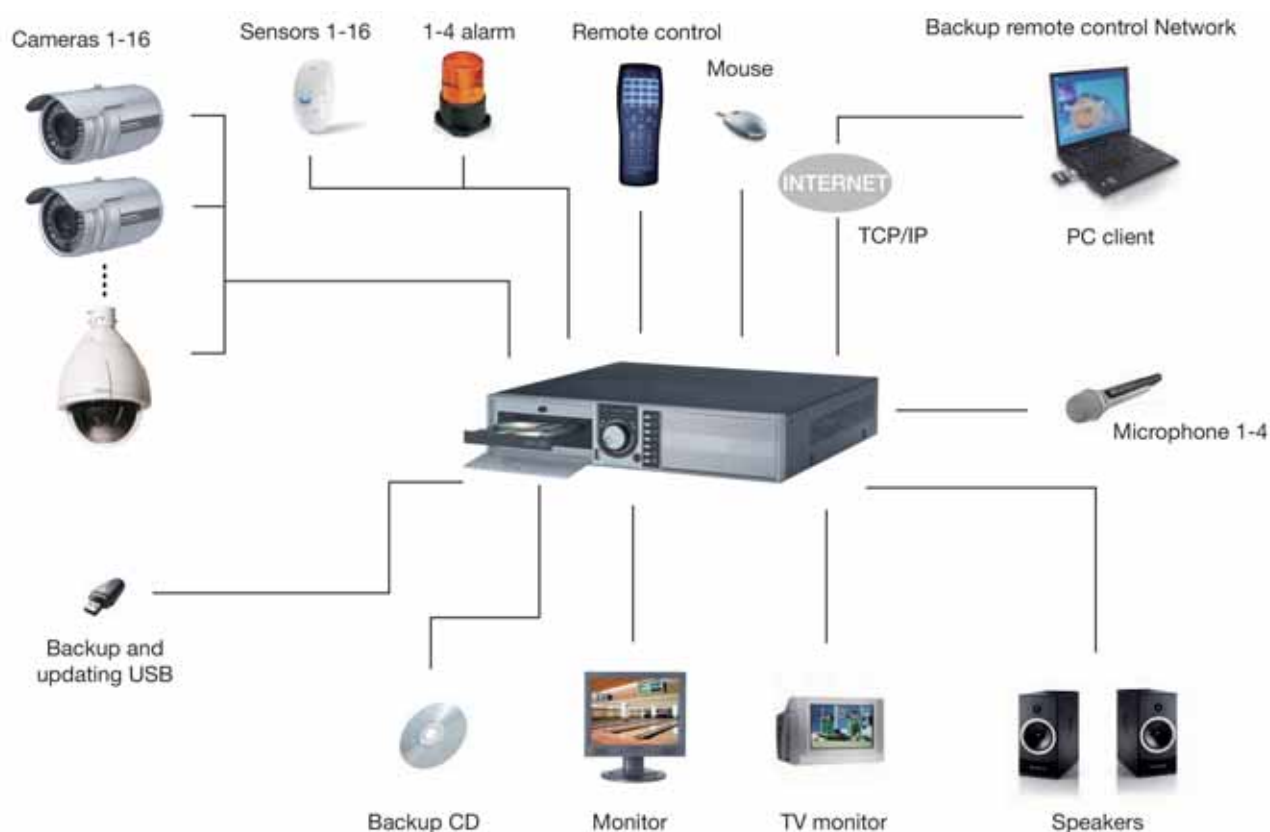
Item code			DVR-REALCH16 918055
Video input		no.	16
Video output			16 in loop/VGA/monitor/spot
Function			recorder/playback/network
Standard video		type	NTSC/PAL auto selection
Video signal			Composite video signal, 1 Vpp, 75 Ω on BNC
Live resolution		PAL	pixel 720x576
Colour resolution million			16.7
Signal-to-Noise Ratio (S/N)		dB	>48
Recording specifications			
Speed	PAL	fps	100 (720x480) 200 (720x240) 400 (352x288)
Quality			Minimum/low/normal/good/excellent
Mode			Manual/program/motion detector/alarm
Program			Time and recording frame rate for each channel
Compression	standard		MPEG-4
Search mode			date/time/events
Hard disk	Type		internal with interface SATA
	Max capacity	TB	3x1
	Recording		stop/overwriting
Live view			
Live view			Display mode cyclical/1/4/9/16
Display rate			Real time
Zoom function			2x2 on live images
Motion detector			144 areas (5 sensitivity steps)

Network operation			
Network connections			TCP/IP
Ethernet	base T	M bit	10/100
Web interface			Internet Explorer
Applications			Live/Playback/DVR control/PTZ control
General characteristics			
Alarm function	Input	no.	16 (NO/NC)
	Output		4 (NO/NC)
Serial communication			RS485 (D+, D-)
VGA output		type	DSUB (15 poles female connector)
CMS			Central Monitoring System Max 64 cameras simultaneously
Audio channel	Input	no.	4
	Output		1
Images backup			USB 2.0/DVD-RW/remote connection
Software backup			Internet explorer
PTZ Control			PELCO-D/PELCO-P
Password			yes
Clock			support NTP (network time protocol, legal time management
Web interface			Remote control / mouse / keyboard
			Jog&shuttle / remote software
Power supply			V, Hz 100-240, 50/60 (max 4,0A)
Operating Temperature		°C	+5 to +40
Operating Humidity		%	<90
Dimensions (lxwxh)		mm	440x402x88
Weight		kg	7.2

Accessories	code	Description
HDD-250S	918221	Hard disk 250 GB 7200 rpm SATA
HDD-500S	918222	Hard disk 500 GB 7200 rpm SATA
HDD-1000S	918223	Hard disk 1000 GB 7200 rpm SATA

Installation example

DVR-REALCH16



DVR and QUAD

DVR Real time

DVR-2000 Series

Professional digital video-recorders designed for advanced installations of video-surveillance in medium-large sized installations, such as companies, airports and shopping malls. The double compression system (also implemented in

the DVR-MJ family on the MJPEG/MPEG4 version) allows to have excellent video quality in playback (JPEG2000) and, at the same time, a smooth and reliable network connection (H264). These two standards are the state-of-art of static and dynamic compression and give these machines unique characteristics as concerns quality and reliability.

The DVR-2000 is available on the 4,8 and 16 channel versions with the same number of alarm inputs and complete network support, USB connection, extractable hard disk and a powerful 192-zone motion detector to meet any installation need.

These DVR units support a powerful central monitoring software program (CMS) that allows to remotely manage DVR groups.

Equipped with a comfortable and intuitive graphic menu; easy to use with the remote control and the mouse.

DVR-2000CH4
DVR-2000CH8
DVR-2000CH16



Main features

- Double compression system: JPEG2000 & H264
- Real Triplex (recording, playback, remote connection)
- Supports the central monitoring system (CMS)
- Quality and frame rate regulation available for each channel
- Extractable Hard Disk
- VGA output
- 100/200/400 real-time recording **New**

Other features

- USB 2.0
- Export files (USB and network)
- Motion detection with 192 zones (5-level sensitivity)
- PTZ control
- Multi language graphic menu
- Complete network support (TPC/IP, PPPoE, DHCP, DDNS)
- Jog-shuttle with remote control and mouse

Item code			DVR-2000CH4 918010	DVR-2000CH8 918009	DVR-2000CH16 918008
Video input		no.	4	8	16
Video output		no.	4/8/16 loop-out, 1 monitor, 1 spot, 1 VGA		
Function			recorder/playback/network		
Video standard Type			NTSC/PAL auto selection		
Video signal			Composite video signal, 1 Vpp, 75 Ω on BNC		
Live resolution	PAL	pixel	720x576		
Signal-to-Noise Ratio(S/N)		dB	>48		
Recording Specifications					
Speed	PAL	Fps	50 (720x288) 100 (360x288) 100 (360x144)	100 (720x288) 200 (360x288) 200 (360x144)	100 (720x288) 200 (360x288) 400 (360x144)
Quality			Minimum / low / normal / good / excellent		
Recording mode			Mode manual / program / motion detector / alarm		
Program			Time and recording frame rate for each channel		
Compression	recording	standard	JPEG2000		
	Network		H264		
Search mode			list hours / events / research time and date		
Hard disk	type		1 Internal e 1 extractable both with Interface SATA		
	Max capacity	TB	2x1		
	recording		Stop / overwriting		
Live View					
Display mode			cyclical/PIP 1/4	cyclical/PIP 1/4/6/8/9	cyclical/PIP 1/4/6/8/9 /13/16
Display rate			Real time		
Zoom function			2x Live images and recording		
Motion detector			192 areas with 5 levels of sensitivity		

Network operation					
Network connections			TCP/IP		
Ethernet	base-T	Mbit	10/100		
Web interface			Client software & Internet Explorer		
Applications		type	Live/Playback/DVR control/PTZ control		
General characteristics					
Alarm functions	Input	no.	4 (NO/NC)	8 (NO/NC)	16 (NO/NC)
	Output		1 (NO/NC)		
Serial communication			RS485 (D+, D-)/RS232C		
VGA output		type	TFT LCD monitor		
CMS Central Monitoring System			Max 36 cameras simultaneously		
Audio channels	input	no.	4		
		type	mono		
	output type	no.	1		
			mono		
Images backup			USB 2.0/remote connection		
Software backup			Client software & Internet Explorer (by DDNS Server)		
PTZ Control			PELCO-D		
Password			3 levels		
User interface			Remote control/mouse/keyboard/Jog & shuttle client software / Internet Explorer (by DDNS Server)		
Power supply		V, Hz	100-240, 50/60 with ON/OFF (power adapter 12Vd.c./6.67A included)		
Operating Humidity		%	<90		
Operating Temperature		°C	+5 to +40		
Dimensions (w×l×h)		Mm	430×400×92		
Weight		Kg	8		

Accessories	code	Description
HDD-250S	918221	Hard disk 250 GB 7200 rpm SATA
HDD-500S	918222	Hard disk 500 GB 7200 rpm SATA
HDD-1000S	918223	Hard disk 1000 GB 7200 rpm SATA
DVR2000-DVD-RW	918216	Dvd complies with DVR-2000
DVR2000-KB	918108	Keyboard complies with DVR-2000 (max 4)

Installation example

DVR-2000 Series



DVR and QUAD

DVR-MILANO Series

DVR-MILANO Series

New

DVR-MILANO-4
DVR-MILANO-9
DVR-MILANO-16

The new **MILANO** family is renovating and enlarging the Fracarro range of digital video-recording solutions. These Esaplex DVRs stand apart with their advanced functions and easy-to-use technology, thanks to a multi-language graphic menu. The new H264 compression allows one to record for long periods while using very little disk space (9 levels of adjustable quality) with a maximum D1 resolution (720x576).

The **MILANO** family allows for comfortable and reliable portable video control by the means of a mobile phone, PDA or smartphone without requiring the installation of any software. It's even possible to make small home automation applications, thanks to the remote control of 2 relays.

All DVRs are equipped with several video outputs: VGA; S-Video and 2 BNC outputs. The innovative eSATA connection ensures the extremely fast connection of external peripheral units, such as hard disks and DVD burners.

The **MILANO** Series supports powerful central monitoring software (CMS) that allows one to remotely manage up to 10 DVRs by the means of interactive graphic maps.

The DVRs are supplied with remote controls and a mouse, while the keyboard and internal DVD burner are optional.



Main features

- Real Esaplex (Recording, Live, Playback, Control, Backup and remote connection)
- Immediate connection with mobile phone/PDA without needing any software
- H264 hardware compression
- Recording, live and Playback in real time (4 and 9 channels)
- VGA and S-Video outputs

- Full-D1 resolution (720x576)
- Smart Search
- Recording before and after an alarm
- Central monitoring software (CMS) with interactive graphic map management
- eSATA connection for external hard disk (9 and 16 channels)
- Optional DVD burner and control keyboard

Other features

- AVI file export (USB, network)
- Multi-zone and sensitivity advanced motion detection
- PTZ advanced control for all the Fracarro speed dome cameras
- Recording on ftp server
- Notification of the event by email
- Clear and easy multi-language menu

- Complete network support (TCP/IP, PPPoE, DHCP, SMTP, FTP, DDNS)
- High protection by means of multi-level password
- Remote control and mouse included
- Supports Windows Vista and new Windows 7
- Privacy: limitation of hours of stay data and watermarking codification system

Item code			DVR-MILANO-4 918122	DVR-MILANO-9 918123	DVR-MILANO-16 918124
Video	Input	no.	4 BNC	9 BNC	16 BNC
	Output		VGA/S-Video/2 BNC (monitor and spot)		
	Standard		NTSC/PAL manual selection		
	Signal		1.0Vp-p, 75 W unbalanced, BNC type		
Audio	Input	no.	2	4	
	Output		2	2	
	Signal		100mV-2Vrms		
Operation			Recording, Live, Playback, Control, Backup and remote connection		
Recording					
Speed	NTSC	Fps	120 (360x240)	240 (360x240)	240 (360x240)
			60 (720x240)	120 (720x240)	120 (720x240)
			30 (720x480)	60 (720x480)	60 (720x480)
	PAL		100 (360x288)	200 (360x288)	200 (360x288)
			50 (720x288)	100 (720x288)	100 (720x280)
		25 (720x576)	50 (720x576)	50 (720x576)	
Quality			can be configured for each camera with 9 levels		
Mode			Manual/programming/movement detection/alarm/pre and post alarm (0-60 seconds)		
Programming			time and recording speed can be configured for each camera		
Compression	video	standard	H264		
	audio		ADPCM		
Search of recorded images			Date/time/motion/video loss/camera Smart search		
Hard Disk	type		SATA, internal assembly		
	Max capacity	GB	2 1TB disks each (max 2TB)	3 2TB disks each (max 6TB)	
	Overwriting		full disk stop/cyclical overwriting can be configured for hours to respect privacy		
	Partition		double partition can be configured to separate video and alarms		
	Safety		double detection and signalization of disk malfunctioning		
CIF recording autonomy (352x288) with medium quality (5)	250 GB	days	6 (100 fps)	3 (200 fps)	3(200 fps)
	500 GB		12 (100 fps)	6 (200 fps)	6 (200 fps)
	2 TB		46 (100 fps)	23 (200 fps)	23 (200 fps)
View					
Resolution	NTSC	pixels	720x480		
	PAL		720x576		
Speed			real time		
Mode			Full screen Quad/programmable cyclic	Full screen Quad/7/9 programmable cyclic	Full screen Quad/7/9/10/13/16 programmable cyclic
Zoom function			X2 and X4 on live images		
Motion detector			detection areas and sensibility can be configured for each camera		
Network Operation					
Network connections			RJ45 connector, Ethernet base-T Mbit 10/100		
Communication	protocols		TCP/IP, HTTP, PPPoE, DHCP, DDNS, FTP, TSP		
	Ports		can be configured individually for data and Control		
Operation			Remote control, Live video monitoring by PTZ, Backup, software updating		
Alarm management			Notification by email, ftp and web interface		
Users			Max. 8 simultaneous users		
DVR management interface					
Protection			(4) Multi-level password and (18) multi-users		
Local			Front keys, USB mouse, remote control, optional control keyboard with joystick (up to 256 DVRs)		
Remote	PC	Internet Explorer	Complete management (up to 4 DVRs with ActiveX)		
		CMS	Complete management of 10 DVRs with graphic and interactive maps		
	Mobile phone and PDA		Live image display (individual camera/Quad with resolution, which can be configured, alarm status monitoring and output relay management (for home automatic applications)		

DVR and QUAD

Event management				
Event management	type		Movement motion, video lack, alarm inputs, full disk, disk problems	
Alarms	inputs	no.	4 (TTL/CMOS with configurable polarity)	16 (TTL/CMOS with configurable polarity)
	Outputs		1NO, 1NC	
Buzzer			can be configured per each event	
Event History	max		last 1,000 events	last 3,000 events
Connections				
Serial communication			RS485 (D+,D-), Rs-232	
PTZ control			Pelco D, Pelco P, Samsung SCC-641P, Kalatel Cyber Dome, Bosch AutoDome and others	
Backup			USB 2.0 (external self-powered Hard disks, Pendrive, SD-MMC Card, external DVDs) / Internet Explorer CMS / DVD burner (optional)	
eSTATa for external hard disks			NO	YES
General characteristics				
Power voltage	ON/OFF switch	V, HZ,	100-240, 50/60 (12VDC/5A adapter included)	100-240, 50/60 (12VDC/8A adapter included)
Power consumption		W	45 max	70 max
Operating Temperature		°C	0 to +50	
Operating Humidity		%	<80	
Dimensions (w×l×h)		m m	430×350×65	
Weight	without hard disk	Kg	about 4	

Accessories	code	Description
HDD-250S	918221	Hard disk 250 GB 7200 rpm SATA
HDD-500S	918222	Hard disk 500 GB 7200 rpm SATA
HDD-1000S	918223	Hard disk 1000 GB 7200 rpm SATA
DVR-SPEED-KB	918125	Control keyboard to manage 256 DVRs and/or speed dome Fracarro cameras of the CSD Series
DVD-SATA	918126	DVD burner comply with DVR Milano Series
DVR-EXT-REMOTE	918136	Additional remote control with external IR sensor (3 m cables) for DVR

Installation example

DVR-MILANO Series



DVR-VENEZIA

DVR-VENEZIA

New

DVR-VENEZIA

The **DVR-VENEZIA** stands apart with its advanced functions and easy-to-use technology, thanks to a multi-language graphic menu.

The new H264 compression allows one to record for long periods while using very little space of the disk (the quality can be adjusted in 9 levels) with a D1 maximum resolution (720x576).

DVR-VENEZIA allows for comfortable and reliable control by means of a mobile phone, PDA or smartphone without requiring the installation of any software. It's even possible to make some home automation applications, thanks to the remote control of 2 relays.

The USB 2.0 port allows for easy backup and playback by means of the pendrive, hard disk and external DVD burners.

The **DVR-VENEZIA** supports powerful central monitoring software (CMS) that allows one to remotely manage up to 10 DVRs with interactive graphic maps.

Besides two BNC video outputs, it is equipped with the VGA digital output that allows the best display quality.

Remote control with batteries and USB optical mouse included. The DVR can be controlled by the DVR-SPEED_KB keyboard.



Main features

- Real Esaplex (recording, live, playback, Control, Backup and Remote Connection)
- Immediate connection by mobile phone/PDA without any software
- H264 hardware compression
- Recording, live and real-time playback

- VGA output
- Full-D1 resolution (720x570)
- Smart search
- pre/post alarm recording
- Central monitoring system (CMS) with graphic interactive maps
- Optional control keyboard (max. 256 PTZ and/or DVR)

Other features

- AVI file export (USB, network)
- Multi-zone and sensitivity advanced motion detection
- PTZ advanced control for all Fracarro speed dome cameras
- Recording on ftp server
- Event notification by email
- Clear and easy multi-language menu
- No fans

- Complete network support (TCP/IP, PPPoE, DHCP, SMTP, FTP, DDNS)
- High protection by means of multi-level password
- Remote control and optical USB mouse included
- Supports Windows Vista and new Windows 7
- Privacy: limitation of the hours of permanence of data and watermarking codification system

DVR and QUAD

Item code			DVR-VENEZIA 918121
Video	Inputs	No.	4 BNC
	Outputs		VGA/2 BNC (monitor and spot)
	Standard		NTSC/PAL manual selection
	Signal		1.0Vp-p, 75W BNC type unbalanced
Audio	Inputs	No.	1
	Outputs		1
	Signal		100 mV-2Vrms
Operation			Recording, Live, Playback, Control, Backup and remote connection
Recording			
Speed (can be configured on each camera individually)	NTSC	Fps	120 (360x240) 60 (720x240) 30 (720x480)
	PAL		100 (360x288) 50 (720x288) 25 (720x576)
Audio/video			Audio and video recording can be selected
Quality			Can be configured on each camera with 9 levels
Mode			Manual/programming/motion detection Alarm/pre and post alarm (0-60 sec.)
Programming			Time and recording speed on each camera
Compression	Video	Standard	H262
	Audio		ADPCM
Search of recorded images			Date/time/motion/video loss/ camera/Smart Search
Hard disk	Type	GB	3,5" SATA, internal Assembly
	Max. capacity		1 1TB (max.) disk
	Overwriting		Full disk stop/cyclical overwriting/configurable overwriting for hours with respect to privacy
	Partitions		Configurable double partition to separate video and alarms
CIF recording autonomy (352x288) with medium quality (5)	Safety	Days	Detection and signalization of disk malfunctioning
	250 GB		6 (100 fps)
	500 GB		12 (100 fps)
	1 TB		23 (100 fps)
View			
Resolution	NTSC	Pixel	720x480
	PAL		720x576
Speed			Real time
Mode			Full screen/Quad/cyclical which can be programmed
Zoom function			X2 and x4 on live images
Motion detector			Configurable detection and sensitivity areas on each camera
Network operation			
Connection			RJ45 connector, Ethernet base-T Mbit 10/100
Communication	Protocols		TCP/IP, HTTP, PPPoE, DHCP, DDNS, FTP, TSP
	Ports		Can be configured individually for data and Control
Functionality			Remote control, live video monitoring by PTZ, Backup, software updating
Alarm management			Notification by email, ftp and web interface
Users			Maximum 8 simultaneous users
Management interface			
Protection			(3) Multilevel password and 818) multiuser
Local			Front keys, USB mouse, remote control, option control keyboard with joystick (up to 256 DVRs)
Remote	PC	Internet explorer	Complete management (up to 4 DVRs) by ActiveX
		CMS	Complete management up to 10 DVRs with interactive graphic maps
	Mobile phone and PDA		Live image view (single camera/Quad) with configurable resolution, alarm status monitoring and output relay management (for home automation applications)
Event management			
Event which can be managed	Type		Movement detection, video loss, alarm inputs
Alarms	Inputs	No.	4 (TTL/CMOS with polarity which can be configured)
	Outputs		1 NO, 1 NC
Buzzer			Which can be configured for each event
Event history		Max	Last 1,000 events

Connections			
Serial communication			RS485 (D+, D-), RS-232
PTZ control			Pelco D, Pelco P, Samsung SCC-641P, Kalatel Cyber Dome, Bosch AutoDome and others
Backup			USB 2.0 (self-powered external Hard disks, Pendrive, SD-MMC Card) / Internet Explorer / CMS Burner, external DVD (USB)
General characteristics			
Power voltage	ON/OFF switch	V, Hz	100–240, 50/60 (12Vdc/3.3A adapter included)
Power consumption		W	18 max
Operating temperature		°C	0 to 45
Operating humidity		%	<80
Dimensions (w×l×h)		mm	320 x 225 x 55
Weight		Kg	About 2,5 (without hard disk)

Accessories	code	Description
HDD-250S	918221	Hard disk 250 GB 7200 rpm SATA
HDD-500S	918222	Hard disk 500 GB 7200 rpm SATA
HDD-1000S	918223	Hard disk 1000 GB 7200 rpm SATA
DVR-SPEED-KB	918125	RS485 Control keyboard to manage 256 DVRs and/or Fracarro speed domes of CSD Series
DVR-EXT-REMOTE	918136	Additional remote control with external IR sensor (3 m cable) for DVR

Installation example

DVR-VENEZIA



DVR and QUAD

DVR MJ Series

DVR-MJ Series

Digital video recorder particularly suitable for domestic installations because they are powerful, noiseless and affordable. The advanced double static/dynamic compression system allows one to have excellent video quality in playback (MJPEG) and, at the same time, a smooth and reliable network connection (MPEG4). The DVR-MJ units are available on the 4 and 8 channel versions with the same number of alarm inputs and complete network support, USB connection and a motion

detector to meet any installation's need. Equipped with a comfortable and intuitive graphic menu; easy to use with the remote control and the mouse included.

DVR-MJCH4
DVR-MJCH8



Main features

- Double compression system: MJPEG & MPEG4
- Real Triplex (recording, playback, remote connection)
- Multi language graphic menu
- Quality and frame rate regulation available for each channel
- Motion detection
- Regulation of maximum recording duration for privacy

Other features

- USB 2.0
- Export AVI files (USB and network)
- Supports Internet Explorer
- PTZ control
- Complete network support (TCP/IP, PPPoE, DHCP, DDNS)
- Remote control and mouse included
- Completely noiseless as there are no fans (MJCH4 and MJCH8)
- Privacy. Limitation of recording days **New**

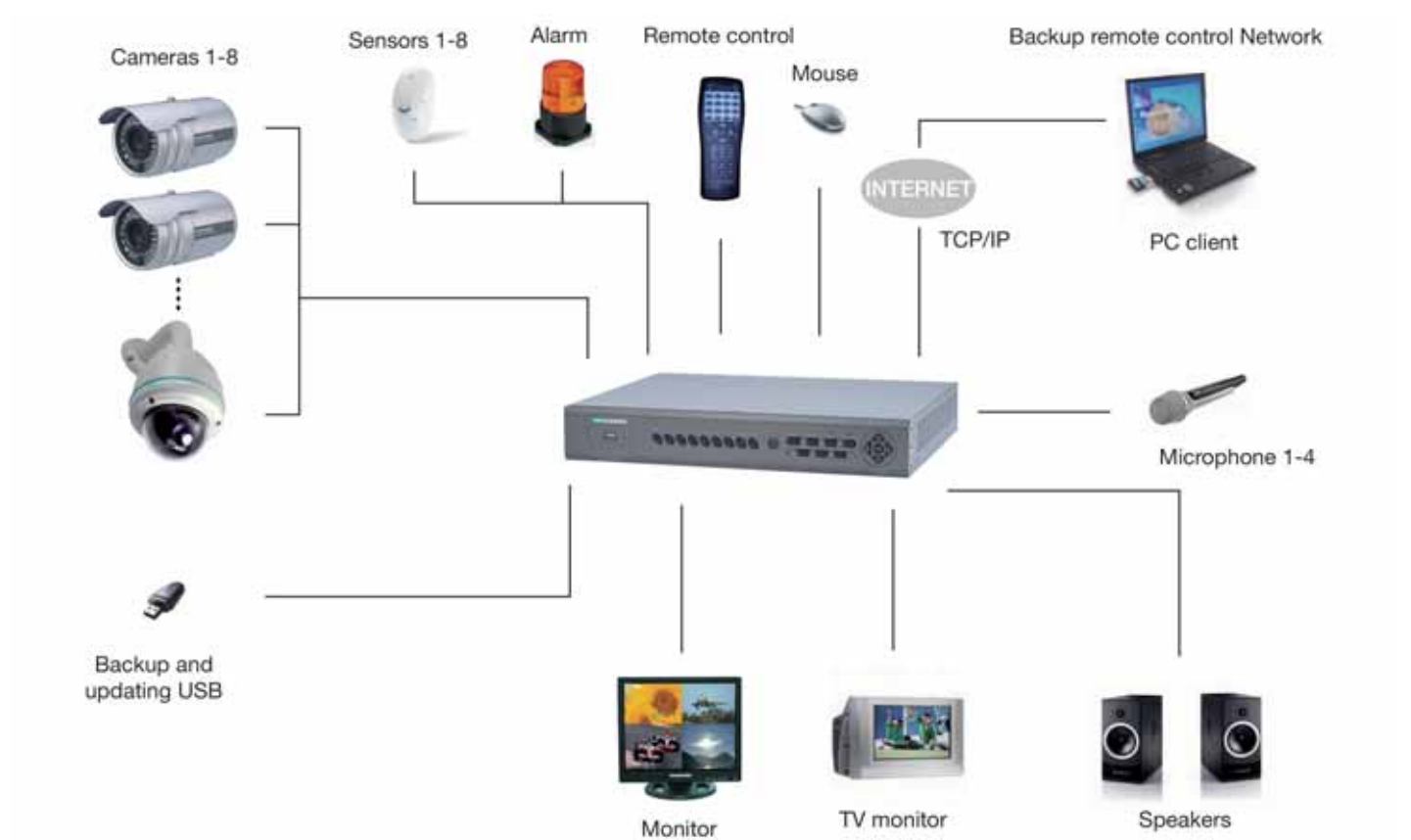
Item code			DVR-MJCH4 918058	DVR-MJCH8. 918057
Video	input	no.	4	8
Video output			1 principal monitor type BNC	
Function			recorder/playback/remote connection	
Video standard			NTSC/PAL auto selection	
Video signal			Composite video signal, 1 Vpp, 75 Ω on BCN	
Live resolution	PAL pixels		640x554	
Colour resolution	millions		16.7	
S/N ratio		dB	>40	
Recording specifications				
Speed	PAL	fps	50-0 (640x272)	
Quality			low/normal/high	
Mode			manual/program/motion detector/alarm	
Program			Time and recording frame rate for each channel	
Compression	Recording	standard	M-JPEG	
	Network		MPEG4	
Search mode of recorded images			date/hours/events	
Hard disk	Type		Internal with interface SATA	
	Max capacity	GB	2x750	
Recording			stop/overwriting	
Live view				
Display mode			cyclical/1/4	cyclical /1/4/9
Display rate			Real time	
Zoom function			-	
Motion detector			free selection area	
Network				
Network connections			TCP/IP, PPPoE, DHCP, DDNS	
Ethernet	base-T	Mbit	10/100	
Web interface			Client software / Internet explorer	
Applications			Display/Playback/DVR Control/PTZ Control	

General characteristics				
Alarm Function	Input no.		4 (NO/NC)	8 (NO/NC)
			1 (NO/NC)	
Serial communication			RS485 (D+, D-)	
VGA Output			-	
Central Monitoring System (CMS)			-	
Audio channels	Input		RCAX1	
	Output		RCAX1	
Images export			USB 2.0/remote connection	
Software			Client software / Internet Explorer	
PTZ Control			PELCO-D/PELCO-P/MERIT LI-LIN	
Password			Yes	
Clock			support NTP (network time protocol)/Legal time management	
User interface			Remote control/mouse/front keys/remote software	
Power supply		V, Hz	100-240, 50/60	
			with ON/OFF (power adapter 12Vdc/5.0A included)	
Operating temperature		°C	+5 to +40	
Operating humidity		%	<90	
Dimensions (lxwxh)		mm	426x328.5x65	
Weight		kg	3.06	

Accessories	code	Description
HDD-250S	918221	Hard disk 250 GB 7200 rpm SATA
HDD-500S	918222	Hard disk 500 GB 7200 rpm SATA

Installation example

DVR-MJ Series



DVR and QUAD

Quad

QUAD-COL

Color QUAD is perfect for the installations where it is important to display several cameras simultaneously. Equipped with advanced functions, such as Picture in Picture (PIP), cyclic sequence with adjustable time and power motion detector with 15-level sensitivity.

QUAD-COL has 4 video channels, 1 monitor output plus 1 additional output for the connection to recording devices, such as DVR or VCR units.

4 alarm inputs and 1 relay output are available as well as an integrated buzzer that signals possible video loss.

A convenient and intuitive OSD is available for the installer.

QUAD-COL



Main features

- Quad/PIP/Cyclic/Full screen
- Motion detection (15-level sensitivity)
- OSD
- 2x2 zoom

Other features

- 4 alarm inputs, 1 relay output
- List of 100 events
- Video loss with buzzer
- Freeze function

Item code			QUAD-COL 918054
Video input		no.	4
Video output		Type	Main monitor and VCR auxiliary output (BNC)
Standard video		Type	NTSC/PAL with auto selection
Video signal			Composite video signal, 1 Vpp, 75 Ω on BCN
Live resolution	NTSC	pixel	720x480
	PAL		720x512
Live view			
Display mode			Live Quad/PIP/Cyclical/Full screen
Display rate			Real time
Advanced function			
Zoom function			2x2 on live
Motion detector			free selection area, 15 sensitivity and 30 speed steps
List events			max 100 events
Alarm reset time		Sec	Selectable 1-999
Sequence time		Sec	Selectable 1-999
General characteristics			
Alarm function	input	no.	4 (NO/NC)
	output		1 (NO/NC) DC 24V/1A Max
Audio channels	Input		RCAx1
	output		RCAx1
Clock			date and time on overwriting
Client interface			Keyboard with OSD
Power supply		V, Hz	100-240, 50/60 with on/off (power adapter 12Vdc/1.5A included)
Operating Humidity		%	<85
Operating Temperature		°C	0 to 50
Dimensions (lxwxh)		mm	208.5x238x51.7
Weight		Kg	1.3

Installation example

QUAD-COL



Cameras





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Cameras

Speed dome cameras

CSD Series

CSD-1867
CSD-26DN67
CSD-36DN67

The new range of Fracarro speed dome cameras is the perfect combination between high technological content and sturdiness and reliability of professional products. The Sony high resolution sensor offers neat images in any condition, thanks to a precise and rapid system of automatic focusing.

All cameras are equipped with advanced functions, such as 256 presets, 4 6-minute tours, motion detection, privacy mask enabled in Pan, Tilt and Zoom, auto-flip of the image and very high revolving speed (Pan 430°, Tilt 200°/sec).

These cameras are particularly suitable for low light conditions, thanks to the Day&Night function with IR mechanic filter and very sensitive Sony ExView HAD sensor. To improve the shooting quality even more, the cameras are equipped with the Wide Dynamic Range function and the very high resolution CCD sensor (560TVL).

Designed to last, they are certified for outdoor use (IP67) and they are vandal resistant (750 kg).



Main features

- IP67 protection level
- 216X, 312X and 432X zoom
- 24 3D privacy masks (Pan, Tilt, Zoom)
- High Pan speed 430°/sec, Tilt 200°/Sec
- Wide Dynamic range Function **New**
- 4 programmable tours
- Anti-vandal function 750 kg
- Day&Night function with IR mechanical filter **New**
- Pointing precision of Pan 0.02°
- 560 TVL high resolution **New**

Item code			CSD-1867 918089	CSD-26DN67 918088	CSD36DN67 918090
Video standard			PAL		
Video sensor		Type	CCD 1/4" Sony Ex View HAD		
Effective pixels		no.	440,000		
Horizontal resolution		TV lines	560		
Wide Dynamic Range (WDR)			Included, 128X		
Minimum illumination	Colour B&N	lux	1 @ F1.6 0,005 @ F1.6		
Signal-to-Noise ratio (S/N)		dB	>50		
Synchronization			Internal/linelock		
Video output			Composite video signal 1 Vpp,75 ΩΩ		
Lens					
Lenses			aspherical, Day&Night		
Focal length (f)		mm	4,1-73,8 (F1,4-F3,0)	3,5-91 (F1,6-F3,8)	3,4- 122,4 (F1,6-F4,5)
Zoom			216x (optical 18x)	312x (optical 26x)	432x (optical 36x)
Filter IR			Mechanical		
Image control					
Auto Gain Control (AGC)			On		
Auto white balance (AWB)			On, ATW, One-push		
Back-light compensation (BLC)			On/Off		
Electronic Shutter Speed (AES)	auto	sec	1/50 to 1/10,000	1/1 to 1/10,000	
	manual	steps	16	22	
	slow		On/Off		
Flickerless (FL)			On/Off		
Focus			Auto (normal/minimum sensibility), One-push AF, manual, infinity, interval AF, Zoom trigger AF		
AE Control			Auto/manual/BLC	Auto/ Manual/ Bright/ EVC/ BLC	
EV Compensation (EVC)		dB	-10,5 to +10,5 (15 steps)		
Function Day & Night			Auto/manual with IR mechanical filter		
Mirror image			On/Off		
PTZ Functions					
Rotation angle	Pan	°	360		
Tilt			92		
Pan rotation speed		°/sec	0.1-90 (with turbo 150)		
Tilt rotation speed		°/sec	0.1-45		
Preset speed	Pan	°/sec	430		
	Tilt		200		

Pan and Tilt proportional with zoom			On/Off		
Pan and Tilt limits			can be defined by the user		
Pan accuracy		°	0.02		
Auto Flip			On/Off		
Zoom limits			x18, x36, x72, x144, x216	x26, x52, x104, x208, x312	x36, x72, x144, x288, x432
Presets		no.	256		
Preset Titles		characters	20 max		
Program Tours			4 tours (up to 6 minutes of manual control)		
Privacy Zones			Max 24 zones (3D Privacy Zone)		
Scan Function			Random, frame, auto-scan, pattern, group		
Alarms	Input	no.	6		
	Output		1		
Password of protection			Alphanumeric definable by OSD		
Other special functions			Motion detector / absolute xyz position		
Control interface					
Communication protocols			Pelco-P/D, GE, Bosch, Ernitec, MESSOA P/D		
Serial communication/Baud Rate			RS485/2400, 4800, 9600, 19200 bit/s		
General characteristics					
Protection		Degree	IP67		
Vandalproof			750 Kg impact resistance		
Power supply		V	24, with power adapter included		
Power consumption		W	44	46	
Operating humidity		%	20-80		
Operating temperature		°C	-20 to +60 (with heater and blower included)		
Dimensions (hxØ)	mm		324x216.6		
Weight		g	3500		

Accessories	code	Description	
BCA-SPEED-C	918083	In-ceiling mount, white steel 350x350x360 mm	
BCA-SPEED-R	918086	Pendant pipe mount, aluminium and white steel 209x253x150 mm	
BCA-SPEED-W	918087	Wall mount, white aluminium 246x140x223 mm	
BCA-SPEED-CORN	918084	Corner mount adaptor, white aluminium 377x260x179 mm	
BCA-SPEED-POLE	918085	Pole mount adaptor, white aluminium 240x260x60 mm	
SPEED-SUNSHIELD	918092	Sun shield, white aluminium 257x257x189 mm	
DVR-SPEED-KB New	918125	New remote control keyboard for Fracarro units (DVR Series MILANO and VENEZIA and CSD Series Speed cameras. Allows one to completely control 256 units (DVRs and speed dome cameras together) connected by cable connection (RS-485). Equipped with a comfortable graphic display for programming and a 3-axis joystick to manage Pan/Tilt/Zoom.	

Cameras

Speed dome Cameras

CSD Series New

CSD-10DN67

Outdoor vandal resistant mini speed-dome 10X cameras.

The new mini speed dome CSD-10DN67 completes the professional range of Fracarro PTZ cameras.

The CSD-10DN67 camera is the best solution to monitor small and medium size environments, such as yards, cafés, small car parks, hotels and so forth.

The IP67 high protection level, together with the vandal resistant certification, allows for an easy installation both inside and outside the buildings, whilst the very compact dimensions make it almost invisible.

Despite being very small, the CSD-10DN67 camera has all the advanced technical characteristics of the Fracarro CSD Series: high resolution (500/570TVL), Day&Night with mechanical filter, 240 presets, 24 privacy masks activated in Pan, Tilt and Zoom, tour, patter and very high revolving speed (Pan 400°/sec).



Main features

- IP67 protection level
- 100X (10X optical) zoom
- 24 3D privacy masks (Pan, Tilt, Zoom)
- High Pan speed 400°/sec
- 8 programmable tours
- Vandalproof
- Day&Night function with IR mechanical filter
- 500 TVL high resolution (570 in B&W)

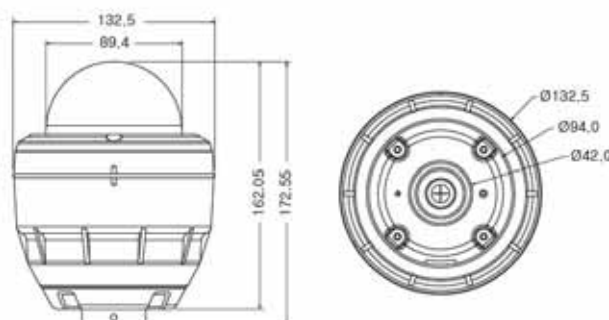
Item code			CSD-10DN67 918127
Video standard			PAL
Video sensor		Type	CCD 1/4" Interline Transfer CCD
Effective pixels		no.	440,000
Horizontal resolution	Colour	TV lines	500
	B&N		570
Minimum illumination	Colour	lux	1 @ F1.4
	B&N		-
Signal-to-Noise ratio (S/N)		dB	>50
Synchronization			Internal/linelock
Video output			Composite video signal 1 Vpp, 75 ΩΩ
Lens			
Lenses			aspherical, Day&Night
Focal length (f)		mm	3.8 -38 mm (F1.8)
Zoom			100x (optical 10x, digital 10x)
Filter IR			Mechanical
Image control			
Auto Gain Control (AGC)			On
Auto white balance (AWB)			ATW, AWC, Manual (1,800°k~10,500°k)
Back-light compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Focus			Auto, minimum distance 1 m
Function Day & Night			Auto/manual with IR mechanical filter
Mirror image			On/Off
PTZ Functions			
Rotation angle	Pan	°	360
	Tilt		92
Pan rotation speed		°/sec	0.1-90 (with turbo 400)
Tilt rotation speed		°/sec	0.1-300
Preset speed	Pan	°/sec	400
	Tilt		300
Pan and Tilt proportional with zoom			On/Off
Pan and Tilt limits			can be defined by the user
Pan accuracy		°	0.1
Auto Flip			On/Off

Zoom limits			selectable with multiples of 10
Presets		no.	240
Preset Titles		characters	20 max
Program Tours			8 tours (up to 30 elements)
Privacy Zones			Max 24 zones (3D Privacy Zone)
Scan Function			Random, frame and auto-scan
Alarms	Input	no.	4
	Output		1
Password of protection			Alphanumerical definable by OSD
Control interface			
Communication protocols			Pelco-P, Pelco-D
Serial communication/Baud Rate			RS485/2400, 4800, 9600, 19200 bit/s
General characteristics			
Protection		Degree	IP67
Vandalproof			yes
Power supply		VDC	12
Power consumption		mA	780
Operating humidity		%	20-80
Operating temperature		°C	-20 to +50 (with heater and blower included)
Dimensions (hxØ)		mm	125x130
Weight		g	1400

Accessories	code	Description	
BCA-MINISPEED-C	918128	In-ceiling mount, white steel and aluminium.	
BCA-MINISPEED-W	918129	Wall mount, white steel..	
DVR-SPEED-KB New	918125	New remote control keyboard for Fracarro units (DVR Series MILANO and VENEZIA and CSD Series Speed cameras. Allows one to completely control 256 units (DVRs and speed dome cameras together) connected by a cable connection (RS-485). Equipped with a comfortable graphic display for programming and a 3-axis joystick to manage Pan/Tilt/Zoom.	

Technical example

CSD-10DN67



Cameras

Box cameras

CB-540WDR

Equipped with several functions, this high quality camera allows one to meet any installation's need. Equipped with WDR, a special function that allows one to have a dynamic 80 times higher than that of a regular camera.

The very high resolution (540TVL), high sensitivity (0.002lux@F1.2) of 1/3" CCD and the DSP control provide excellent images.

All advanced functions, such as DNR, Privacy Masks, Motion detection, AGC, AES, BLC and more can be enabled through the keyboard and OSD.

Like the other Fracarro box cameras, it can be fed by 12V direct current or 24V alternate current.

CB-540WDR



Main features

- Wide Dynamic Range WDR
- 540 TVL high resolution
- 4 Privacy masks
- 12 or 24V with automatic selection
- OSD interface
- Day & Night function with mechanic IR filter
- High sensitivity (0.002lux@F1.2 in B&W)
- Motion Detection over 4 zones
- DNR digital reduction of noise
- Lens not included (see specific paragraph)

Item code			CB-540WDR 918046
Video standard		type	PAL
Video sensor		type	colour CCD 1/3" Sony Interline transfer
Pixels (HxV)		no.	811x508
Horizontal resolution	Colour	TV lines	540
	B&W		570
DSP			Samsung
Gamma correction			0,45
Minimum illumination	@ F1.2	lux	0.1
	@ F1.2 B&W		0.002
	with illuminator IR		0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Dynamic range			x80 normal camera
Synchronization			Internal/Line Lock (only version AC)
Video output			Composite video signal, 1 Vpp 75 Ω on BNC
Controls			
Auto Gain Control (AGC)			low/normal/high/Off
Auto White Balance AWB)			ATW/AWC/Manual (1800-10500 °K)
Back Light Compensation (BLC)			low/normal/high/off
Dynamic Noise Reduction (DNR)			low/normal/high/off
Auto Electronic Shutter (AES)			ESC (X128; 1/50-1/20000 sec)
Lens mount			CS with C adapter included
Autoiris			Video/DC/manual selectable with 4-pole mount
Camera title			On/Off, max 15 characters
Day & Night			On/Off/Auto
Menu			OSD
Motion detector			On/Off (max 4 zones)
Privacy masks			On/Off (max 4 zones)
General characteristics			
Power supply			12V/24V~
Power consumption			4.5 W
Operating humidity		%	90 max
Operating temperature		°C	-10 to +50
Dimensions (lxwxh)		mm	119x60x50
Weight		g	400

Box cameras

CB-540TDNX

CB-540TDNX

These professional True Day&Night cameras are the ideal solution for 24/24 hours video surveillance in locations with very poor lighting. The True Day&Night function allows one to pass from white and black mode when luminosity is under 2 lux and the IR filter is simultaneously removed. This allows one to obtain a high sensitivity in black and white and a perfect reliability of colours during the day. The very high resolution (540 TVL), the high sensitivity (0.05lux @ F1.0) of the 1/3" CCD Sony Ex View HAD and the DSP Sony HQ1 control provide images of very high quality and luminosity. Equipped with a dip-switch for the independent control of AES, AGC, BLC and D&N.

Like the other Fracarro box cameras, it can be fed with a 12V direct current or 24V alternate current.



Main features

- 1/3" CCD Sony Ex View HAD
- 540 TVL high resolution
- High infrared sensitivity (700-1100 nm)
- 12 or 24V with automatic selection
- DSP Sony HQ1
- Day & Night function with mechanic IR filter
- AGC, BLC, On/Off
- Automatic/manual AES
- Lens not included (see specific paragraph)

Item code			CB-540TDNX 918043
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Ex View HAD
Pixel (HxV)		no.	795x596
Horizontal resolution	Colour	TVL	540
	B&W		570
DSP			Sony HQ1
Gamma correction			0.45
Minimum illumination	@ F1.0	lux	0.05
	With illuminator IR		0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
IR sensitivity		nm	700-1100
Synchronization			Internal/Line Lock (only version AC)
Video output			Composite video signal, 1 Vpp 75 Ω on BNC
Filter IR			Mechanical
Controls			
Auto Gain Control (AGC)			AGC/SAGC
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Day & Night			On/Off
Electronic Shutter Speed (AES)			On (1/50-1/100.000 sec), Off (1/50) Manual (8 steps 1/50-1/10000 sec)
Lens mount			CS with C adapter included
Autoiris			Video/DC/manual selectable with 4-pole mount
Adjustment			DC and Vertical phase by trimmer
General characteristics			
Power supply			12V/24V~
Power consumption		W	3.5
Operating humidity		%	90 max
Operating temperature		°C	-10 to +50
Dimensions (lxwxh)		mm	117x62x54
Weight		g	250

Cameras

Box cameras

CB-540TDN and CB-540TDN-HV

New

These professional True Day&Night cameras are the ideal solution for 24/24 hours video-surveillance in low light conditions. The True Day&Night function allows one to switch to the mono-chromatic mode when luminosity is under 2 lux and the IR filter is simultaneously removed.

This allows one to obtain a high sensitivity in black and white and a perfect reliability of colours during the day. The very high resolution (540TVL), the 1/3" SONY Super HAD CCD and the control of DSP Sony HQ1 provide very high quality images.

Equipped with dip-switch for the independent control of AES, AGC, BLC and FL. Like the other Fracarro box cameras, the CB-540TDN can be fed with a 12V direct current or a 24V alternate current while the CB540TDN-HV requires a high voltage 90-260 Vac.

CB-540TDN



CB-540TDN-HV



Main features

- 1/3" SONY Super HAD CCD
- 540 TVL high resolution
- 12 or 24V with automatic selection (CB-540TDN)
- 90-260 Vac (CB-540TDN-HV)
- DSP Sony HQ1
- Day & Night function with mechanic IR filter
- AGC, BLC, AES, FL, On/Off
- Lens, not included (see specific paragraph)

Item code			CB-540TDN 918049	CB-540TDN-HV 918105
Video standard		type	PAL	
Video sensor		type	Colour CCD 1/3" Sony Super HAD	
Effective Pixels (HxV)		no.	795x596	752x582
Horizontale resolution	colour	lines TV	540	
	B&W		570	600
DSP			Sony	
Gamma correction			0.45	
Minimum illumination	colour	lux	0.15@F1.0	0.2@F1.2
	B&W		0.08@F1.0	0.01@F1.2
	with illuminator IR		0	0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)	
IR sensitivity		nm	700-900	
Sybchronization			Internal/Line Lock (only version AC)	Internal/Line Lock
Video output			composite video signal, 1 Vpp 75Ω on BNC	
Filter IR			mechanical	
Control				
Auto Gain Control (AGC)			AGC/SAGC	
Auto White Balance (AWB)			On (2500-9200 °K)	ATW1 / ATW2
Back Light Compensation (BLC)			On/Off	
Flickerless (FL)			On/Off	-
Electronic Shutter Speed (AES)			On (1/50-1/100.000 sec), Off (1/50)	On (1/50-1/100.000 sec),
Manual (8 steps)				
Lens mount			CS with C adapter included	CS
Autoiris			Video/DC	Video/DC
Adjustment			DC and vertical phase, by trimmer	
General				
Power supply			12V/24V~	90-260V~50/60Hz
Power consumption		W	3.5	
Operating humidity		%	90 max	
Operating temperature		°C	-10 to +50	
Dimensions (l x p x h)		mm	99x60x49	50x126x62
Weight		g	250	500

Box cameras

CB-540DN and CB-540DN-HV

These professional Day&Night cameras are the ideal product for 24/24 hours video-surveillance in partially lit locations. The Day&Night function allows it to pass to black and white mode when luminosity is under 2 lux.

The very high resolution (540TVL), the 1/3" SONY Super HAD CCD and the control of Sony DSP HQ1 provide very high quality images.

Equipped with a dip-switch for the independent control of AES, AGC, BLC and D&N.

Like the other Fracarro box cameras, the CB-540DN can be fed with a 12V direct current or a 24V alternate current while the CB-540DN-HV requires an high voltage 90-260 Vac.

New

CB-540DN

CB-540DN-HV



Main features

- 1/3" SONY Super HAD CCD
- 540 TVL high resolution
- 12 or 24V with automatic selection (CB-540DN)
- 90-260 Vac (CB-540DN-HV)
- Digital Signal Processing for high quality image
- Day&Night function
- AGC, BLC, AES, D&N On/Off
- Lens, power supply and bracket not included (see specific paragraphs)

Item code			CB-540DN 918047	CB-540DN-HV 918104
Video standard		type	PAL	
Video sensor		type	Colour CCD 1/3" Sony Super HAD	
Effective Pixel (HxV)		n.°	795x596	795x582
Horizontal resolution	colour	lines TV	540	
	B&W		570	550
DSP			Sony	
Gamma correction			0,45	
Minimum illumination		lux	0,15@F1.0	0,2@F1.2
	@ F1.0 B&W		0,08@F1.0	0,1@F1.2
Signal-to-Noise ratio (S/N)		dB	>50 (AGC Off)	
Synchronization			Interna/Line Lock (only version AC)	Internal
Video output			Composite video signal, 1 Vpp 75 Ω su BNC	
Filter IR			Electronic	
Controls				
Auto Gain Control (AGC)			AGC/SAGC	
Auto White Balance (AWB)			On (2500–9200 °K)	
Back Light Compensation (BLC)			On/Off	
Day & Night			On/Off	
Auto Electronic Shutter (AES)			1/50–1/100.000 sec	On (1/50–1/100.000 sec) Off (1/50)
Lens mount			CS	
Autoiris			Video/DC	DC
Adjustment			DC by trimmer	
General				
Power supply			12V/24V~	90-260V~
Power consumption		W	3.5	7
Operating humidity		%	80 max	
Operating temperature		°C	-10 to +50	
Dimensions (l x p x h)		mm	99x60x49	53x123x56
Weight		g	250	500

Cameras

Box cameras

CB-COL

This professional colour camera is the ideal product for video-surveillance applications in illuminated locations.

The good resolution (420 TVL), the 1/3" SONY Super HAD CCD and the control of Sony DSP HQ1 provide very high quality images.

Equipped with a dip-switch for the independent control of AES, AGC, BLC and FL. Like the other Fracarro box cameras, it can be fed with a 12V direct current or a 24V alternate current.

CB-COL



Main features

- 1/3" SONY Super HAD CCD
- 420TVL good resolution
- 12 or 24 Volt with automatic selection
- AGC, BLC, AES, FL, On/Off
- Lens not included (see specific paragraph)

Item code	CB-COL 918048		
Video standard		type	PAL
CCD Sensor		type	Colour 1/3" Sony Super HAD
Pixels (HxV)		no.	537x597
Horizontal resolution		TVL	420
Gamma correction			0.45
Minimum illumination	@ F1.2	Lux	0.2
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Synchronization			Internal
Video output			Composite video signal, 1 Vpp 75 Ω on BNC
Controls			
Auto Gain Control (AGC)			On/Off
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)
Lens mount			CS with C adapter included
Autoiris			Video/DC selectable by 4-pole mount
General characteristics			
Power supply			12V/24V~
Power consumption		W	1.6
Operating humidity		%	85 max
Operating temperature		°C	-10 to +50
Dimensions (lxwxh)		mm	119x60x50
Weight		g	470

Box cameras

CB-450BW and CB-600BW

These two black and white cameras have special characteristics that make them useful in various locations and they are perfect in locations where night vision of a very high quality is required.

Equipped with a dip-switch for the independent control of AES, AGC and BLC and 1/3" CCD Sony sensors with high resolution and sensitivity.

In particular, CB-600BW uses the well-known Sony Ex View that guarantees 600 TVL and excellent shooting up to a luminosity of 0.005lux.

Like the other Fracarro box cameras, it can be fed with a 12V direct current or a 24V alternate current.

CB-450BW
CB-600BW



Main features

- Mono-chromatic
- 450/600 TVL high resolution
- 12 or 24V with automatic selection
- 0.05/0.005 lux@F1.2 very high sensitivity
- AGC, BLC, AES, On/Off
- Lens not included (see specific paragraph)

Item code			CB-450BW 918045	CB-600BW 918044
Video standard		type	PAL	
Black and white video sensor		type	CCD 1/3" Sony Super	HAD CCD 1/3" Sony Ex View
Pixels (HxV)		no.	537x597	795x596
Horizontal resolution		TVL	450	600
Minimum illumination	@ F1.2	lux	0.05	0.005
Signal-to-noise ratio (S/N)		dB	>48 (AGC Off)	
Synchronization			Internal	
Video output			Composite video signal, 1 Vpp 75 Ω on BNC	
Controls				
Auto Gain Control (AGC)			On/Off	
Back Light Compensation (BLC)			On/Off	
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)	
Lens			mount CS with C adapter included	
Autoiris			Video/DC selectable with 4-pole mount	
Adjustment			DC, by trimmer	
General characteristics				
Power supply			12V/24V~	
Power consumption		W	1.2	2
Operating humidity		%	85 max	
Operating temperature		°C	-10 to +50	
Dimension (lxwxh)		mm	119x60x50	
Weight		g	250	

Cameras

Box cameras

LENSES

The range of Fracarro lenses combines the ease of installation with the high-quality professional products. All the lenses with a CS connection are equipped with aspherical varifocal lenses from a glass that has a low

distortion and high luminosity. The varifocal regulation facilitates the choice of lens when the camera is bought and allows it to regulate framing. The range includes one new product (15B3-12IR) that is particularly suitable to night shooting because it can maintain a perfect focusing, even in infrared mode.

All lenses are compatible with Fracarro box cameras whether for the connection or the Autoiris control.



Main features

- Aspherical varifocal lenses
- High luminosity
- Glass lenses
- CS connection

Item code			15B3-10ND 999989	15B3-12IR 918082	15B5-50ND 999819
Focal length (f)		mm	2,8-10	2,8-12	5,0-50
Step			Mount CS		
Maximum aperture			F1.4-360	F1.4-360	F1.7-360
Viewing angle	transverse	°	115,8-35,3	121,7-30,0	64,2-6,9
	horizontal		93,7-28,3	97,6-24,1	51,7-5,5
	vertical		70,6-21,2	72,6-18,8	38,9-4,1
Autoiris control			DC Drive		
Dimensions (l x p x h)		mm	57,2x40x46	53,9x45,0x49,4	61,5x44,5x50,8

Box cameras

CNT-296-VAND case

The **CNT-296-VAND** case is designed for video-surveillance in locations where vandalism is possible.

Made from a steel sheet, thanks to its convenient compass opening, it allows for easy installation and maintenance. Equipped with PMMA glass that is 6 mm thick on the front side.

An adapter for a 12V camera is also available among the other accessories.

CNT-296-VAND



Main features

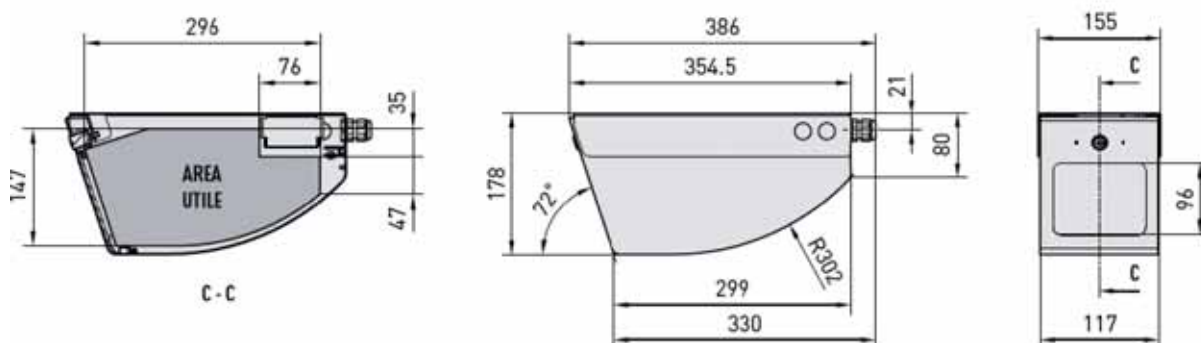
- Made from steel sheet
- Compass opening
- Lock with key raceways
- Passage of cables through the fixing side, through both sides or through two M20 cable

Item code			CNT-296-VAND 918073
Material			Made of steel 1.5 mm thick
Colour			Epoxypolyester powder painted RAL9002
Dimensions (l x p x h)	External	m m	355x155x178
	Useful area		296x117x147
Operating temperature with heater		°	-20°C / +50°C
Weight		kg	3.5

Accessories	code	Description	
CNT-PSU12V-VAND	918072	Power adapter for camera 100-240V~ 50/60Hz 1A	

Technical example

CNT-269-VAND



Cameras

Telecamere box

CNT-VAND case New

The new Fracarro **CNT-VAND** case is sturdy, versatile, easy to install and comprises all accessories.

Designed to be installed in sensitive environments (die-cast aluminium body, 6 mm tempered glass, bracket with a protected cable raceway), the CNT-VAND case guarantees total vandal resistant protection in railway stations, airports, stadiums, town centres, etc.

The IP67 protection allows for outdoor installation in all atmospheric and climatic conditions, thanks to the blower and heaters included. The special salt proof treatment guarantees long life, even in marine environments.

Easy to install, thanks to a comfortable side opening that facilitates the calibration operation of the Fracarro box cameras, this innovative case can be powered by high voltage (90-260Vac) or 24 Vac for safe low tension connections. The CNT-VAND-BRACK and the sunshield are sold separately as well as the post fixing wall and corner supports.

CNT-VAND



Main features

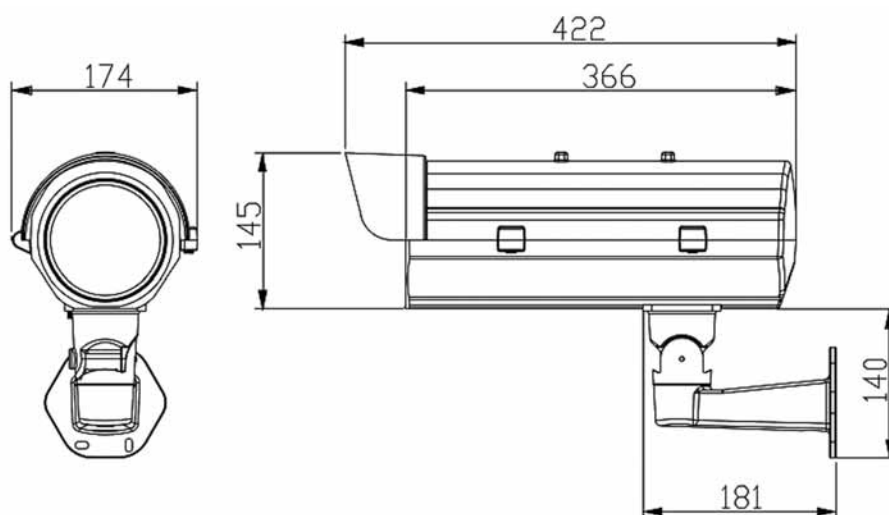
- For both indoor and outdoor use (IP67)
- Entirely made from resistant aluminium
- 6 mm tempered glass
- vandalproof
- Supplied with heater, blower and adapter
- compass opening system that facilitates the installation
- salt proof treatment
- double power supply of 24Vac or 90-260Vac
- bracket with cable raceway sold separately

Item code			CNT-VAND 918130
Material			Die-cast aluminium, stainless steel external screws
Colour			RAL9002
Dimensions (l x p x h)	External	mm	422x174x145 (without bracket)
	Useful area		260x60x70
Power supply ~		V	90-260 Vac or 24 Vac 50/60 Hz
Operating temperature with heater		°C	-20 to +50
Weight		Kg	2.3 (without bracket), 2.9 (with bracket)

Accessories	code	Description	
CNT-VAND-BRACK	918132	Aluminium wall mount with salt-proof treatment. Internal cable raceway and ball joint (90° Tilt, 120° Pan) 172 mm x 144 mm x 114 mm	
CNT-VAND-COVER	918131	Polycarbonate sunshield to be used with the CNT-VAND vandal resistant case	
BCA-SPEED-CORN	918084	Fixing bracket corner adapter of white aluminium 377 x 260x 179 mm	
BCA-SPEED-POLE	918085	Fixing bracket pole bracket of white aluminium 240 x 260 x 60 mm	

Technical example

CNT-VAND



Cameras

Cameras IR

Varifocal **CIR40-EV67H-B** New

The **CIR40-EV67H-B** camera combines professional quality with a fast and easy installation.

Despite its high protection level (IP67), it allows an external easy regulation of focus and zoom.

The high quality CCD video sensor (1/3" Sony Super HAD, 530 TVL) together with the digital processing of the DSP SONY HQ1 and the efficient autoiris control make this camera particularly efficient.

Excellent sensitivity, thanks to the Day&Night function with IR mechanic filter. Designed for long distance shooting, it has 9-22 mm optics and a uniform IR illuminator with 40 high efficiency LEDs.

CIR40-EV67H-B



Main features

- Day&Night with IR mechanic filter
- Uniform IR illuminator with 40 LEDs (40 meters)
- 530 TVL high resolution
- Varifocal with external regulation
- IP67 protection level
- 1/3" SONY Super HAD CCD
- DSP SONY HQ1
- Double glass
- Supplied with fixing bracket with cable raceway New

Item code	CIR40-EV67H-B 918113		
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	530
DSP			Sony HQ1
Minimum illumination	@ F2.0	lux	0.5
	IR Led on		0
Signal-to-Noise Ratio (S/N)	dB		>48 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical, Day&Night
Focal length (f)		mm	9-22 @ F1.5
Focus adjustment			manual, external
Autoiris			servomotor, tension controlled
IR filter			mechanical, lens built-in
Controls			
Auto Gain Control (AGC)			On
Auto White Balance (AWB)			On (2500-9500°K)
Auto Electronic Shutter (AES)			On (1/50-1/100,000 sec)
Infrared Illuminator			
Led		no.	40
		type	double beam arrangement
Projection distance	internal	m	30-40
	external		25-35
ON/OFF control			CDS Light sensor, with hysteresis 3.5-10 lux
General characteristics			
Protection		degree	IP67
Power supply		V	12±10%
Power consumption	IR led On	mA	850
	IR led Off		180
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (lxØ)		mm	150.5x88.0
Weight		g	490

Cameras IR

Varifocal CIR20-EV67H-B New

Thanks to high technical characteristics and a shared design, the CIR20-EV67H-B is the perfect combination with the CIR40-EV67H-B in professional installations, such as ports, car parks, streets and squares.

For guaranteeing the same quality levels (530 TVL, mechanical filter, DSP) and easy use, this camera is designed to frame and illuminate small and medium size environments, thanks to its 20 LEDs and 4-12 mm varifocal optics.

The IP67 protection level and the bracket with internal cable raceway allow this camera to be installed in external sensible environments.

CIR20-EV67H-B



Main features

- Day&Night with mechanic IR filter
- Uniform IR illuminator with 20 LEDs (25 meters)
- 530 TVL high resolution New
- Varifocal with external regulation 3.5-12 mm New
- IP67 protection level
- 1/3" SONY Super HAD CCD
- DSP SONY 11R
- Double glass
- Fixing bracket with cable raceway included New

Item code		CIR20-EV67H-B	
Video standard		type	PAL
Video sensor		type	Color CCD 1/3" Sony SUPER HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	530
DSP			Sony HQ1
Minimum illumination	@ F2.0	lux	0.3
	IR LEDs on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical, Day&Night
Focal length	F1,5	mm	3.5-12
Focus adjustment			manual, external
Autoiris			servomotor, tension controlled
IR filter			mechanical, lens built-in
Controls			
Auto Gain Control (AGC)			On
Auto White Balance (AWB)			On (2500-9500°K)
Auto Electronic Shutter (AES)			On (1/50-1/100,000 sec)
Infrared Illuminator			
Led		no.	20
		type	double beam arrangement
Projection distance	internal	m	15-25
	external	m	10-20
ON/OFF control			CDS Light sensor, with hysteresis 3.5-10 lux
General features			
Protection		degree	IP67
Power supply		V	12±10%
Power consumption	IR led On	mA	510
	IR led Off		150
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (lxØ)		mm	140.5x76
Weight		g	490

Cameras

Cameras IR

Varifocal CIR15-V67H

Compact and powerful, the **CIR15-V67H** camera is equipped with 1/3" SONY Super HAD CCD with 540 TVL.

It offers a precise digital processing of the images (DSP SONY HQ1) and an excellent autoiris control to guarantee perfect quality images.

The focus and zoom regulations allow to adapt the aspherical lenses to any location.

The IR mechanical filter offers excellent colours and very high sensitivity. The uniform 15 LED illuminator allows it to cover up to 30 meters. Equipped with a dip-switch to control AGC, AES, BLC and FL.

CIR15-V67H



Main features

- Day&Night with IR mechanical filter
- Uniform IR illuminator with 15 LEDs (30 meters)
- 540 TVL high resolution
- Varifocal with internal regulation
- IP67 protection level
- 1/3" SONY Super HAD CCD
- DSP SONY HQ1
- Double glass
- Fixing bracket supplied

Camera specifications			CIR15-V67H
code			918035
Video standard		type	PAL
Video sensor Colour		type	CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	540
DSP			Sony HQ1
Minimum illumination	IR Led on	lux	0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical, Day&Night
Focal length (f)	F1.2	mm	2.9-10 @ F1.2
Focus adjustment			manual, internal
Autoiris			galvanometric with manual adjustment
IR filter		type	mechanical
Controls			
Auto gain control (AGC)			On/Off
Auto white balance (AWB)			On
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto electronic shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)
Infrared Illuminator			
LED		no.	15
		type	double beam arrangement
Projection distance	internal	m	20-30
	external		15-25
ON/OFF control			CDS Light sensor, with hysteresis 1.5-5 lux
General characteristics			
Protection		degree	IP67
Power supply		V	12±10%
Power consumption	IR led On	mA	350
	IR led Off		220
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (lxØ)		mm	185x73
Weight		g	490

Cameras IR

Varifocal CIR36-EV66

CIR36-EV66

This camera offers an excellent price/performance ratio and can meet several installation needs. Equipped with a 1/3" SONY Super HAD CCD of 420 TVL and a practical external regulation for zoom and focus from 4-9 mm that guarantees a practical and fast regulation of framing.

The high protection level (IP66) and the powerful high efficiency 36-LED illuminator make this camera suitable for both indoor and outdoor installations in any light conditions.

The double glass structure avoids halos and blur providing clear images.

Supplied with special fixing bracket with internal cables passage and sunshield.



Main features

- IR illuminator with 36 LEDs (40 meters)
- 420 TVL good resolution
- Varifocal with external regulation
- IP66 protection level
- 1/3" SONY Super HAD CCD
- Double glass
- Fixing bracket with cable protection raceway included

Item code	CIR36-EV66 918028		
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	537x596
Horizontal Resolution		TVL	420
Minimum illumination	@ F2.0	lux	0.5
	IR LEDs on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Focal length (f)	F2.0	mm	4-9
Focus adjustment			manual, external
Controls			
Auto gain control (AGC)			On
Auto white balance (AWB)			On
Back Light Compensation (BLC)			On
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	36
Projection distance	internal	m	20-30
	external		10-20
ON/OFF control			CDS Light sensor, with hysteresis 3.5-10 lux
General characteristics			
Protection		degree	IP66
Power supply		V	12±10%
Power consumption	IR led On	mA	390
	IR led Off		95
Operating Humidity		%	80 max
Operating Temperature		°C	-10 to +50
Dimensions (LxØ)		mm	143x84
Weight		g	550

Cameras

Cameras IR

Fixed optics CIR21-3D66

CIR21-3D66

The camera **CIR21-3D66** is steerable and fits any shooting condition. Pointing is very easy because the camera can be oriented in three different directions, even on inclined floors.

Based on 1/3" SONY Super HAD CCD and equipped with 21 powerful infrared LEDs that guarantee good lighting up to 20 meters.

The IP66 protection level makes it suitable for indoor and outdoor use.



Main features

- IR illuminator with 21 LEDs (20 meters)
- 420 TVL good resolution
- IP66 protection level
- Adjustable in 3 directions
- 1/3" SONY Super HAD CCD
- Fixing bracket included

Item code		CIR21-3D66 918063	
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	500x582
Horizontal Resolution		TVL	420
Gamma correction			0.45
Minimum illumination	@ F2.0	lux	0.4
	IR Led on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			internal
Video output			video composite signal, 1 Vpp 75 Ω BNC
Lens			
Focal length (f)	F2.0	mm	6
Controls			
Auto gain control (AGC)			On
Auto white balance (AWB)			On (2400-9400°K)
Back Light Compensation (BLC)			On
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	21
		type	850 nm
Projection distance	Internal	m	15-20
	external		10-15
ON/OFF control			CDS Light sensor, with hysteresis 4-20 lux
General characteristics			
Protection		degree	IP66
Power supply		V	12±10%
Power Consumption	IR led On	mA	320
	IR led Off		110
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (LxØ)		mm	122.5x74.0
Weight		g	660

Cameras IR

Fixed optics CIR14-68

CIR14-68

Small and compact, the **CIR14-68** camera is equipped with a 1/3" SONY Super HAD CCD sensor of 420 TVL. This camera allows for a good video quality in any light condition, thanks to 18 integrated infrared LEDs.

The high protection level (IP68) allows one to install this camera at any location both indoors and outdoors.

Supplied with sunshield and a practical fixing bracket.



Main features

- IR illuminator with 18 LEDs (15 meters)
- 420 TVL good resolution
- IP68 protection level
- 1/3" SONY Super HAD CCD
- Fixing bracket included

Item code			CIR14-68 918065
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	500x582
Horizontal Resolution		TVL	420
Gamma correction			0.45
Minimum illumination	@ F1.8	lux	0.4
	IR Led on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Focal length (f)	F2.0	mm	3.6
Controls			
Auto Gain Control (AGC)			On
Auto White Balance (AWB)			On (2500-9500°K)
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	18
		type	850 nm
Projection distance	Internal	m	10-15
	external		5-10
ON/OFF control			CDS Light sensor, with hysteresis 8-10 lux
General characteristics			
Protection		degree	IP68
Power supply		V	12±10%
Power Consumption	IR led On	mA	470
	IR led Off		110
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (lxØ)		mm	57x82
Weight		g	505

Cameras

Cameras IR

Fixed optics CIR18-66

CIR18-66

Compact and functional, the **CIR18-66** camera fits both indoor and outdoor installations. Good resolution of 420 TVL, and 18-LED illuminator controlled by the CDS sensor allows good quality images in any light condition.

Particular aluminium case with sunshield. Supplied with fixing bracket.



Main features

- IR illuminator with 18 LEDs (15 meters)
- 420 TVL good resolution
- IP66 protection level
- 1/3" CCD Sony Super HAD **New**
- Fixing bracket included

Item code	CIR18-66 918000		
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	512x582
Horizontal Resolution		TVL	420
Gamma correction			0.45
Minimum illumination	@ F1.8	lux	0.3
	IR Led on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Focal length (f)	F2.0	mm	4.3
Controls			
Auto gain control (AGC)			On
Auto white balance (AWB)			On (2500-9500°K)
Back Light Compensation (BLC)			On
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	18
		type	850 nm
Projection distance	internal	m	10-15
	external		5-10
ON/OFF control			CDS Light sensor
General characteristics			
Protection		degree	IP66
Power supply		V	12±10%
Power consumption	IR led On	mA	220
	IR led Off		80
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +55
Dimensions (lxØ)		mm	128x60x60
Weight		g	606

Dome cameras

Varifocal **CDIR10-V66VH**

Professional camera designed to meet the increasing safety needs in sensible locations, such as airports, train stations, undergrounds, etc.

Protected by solid metal case and polycarbonate cap it can resist to impacts up to 656 kg.

The high resolution 540 TVL and DSP function guarantee excellent image quality 24 hours a day. The varifocal aspherical lens makes installation fast and easy while the 10 IR high efficiency LEDs guarantee a uniform diffusion of light.

The true Day&Night function with IR mechanical filter complete the professional functions of this camera.

Main features

- DSP HQ1
- Varifocal aspherical lenses
- AES, AGC, BLC, FL (On/off with dip-switch)
- IR illuminator with 10 LEDs (15 meters)
- 540 TVL high resolution
- 1/3" SONY Super HAD CCD
- Vandalproof (impacts of 656.1 kg)
- Autoiris
- Day&Night with IR mechanical filter
- Ceiling fixing support included

CDIR10-V66VH



Item code			CDIR10-V66VH
Video standard		type	918034 PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	540
DSP			Sony HQ1
Minimum illumination	@ F1.2	lux	0.25
	IR Led on		0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Synchronization			internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical
Focal length (f)	F1.2	mm	2.9-10
Focus adjustment			manual, internal
Autoiris			galvanometric with internal manual regulation
IR filter			mechanical
Controls			
Auto Gain Control (AGC)			On/Off
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto electronic shutter (AES)			On (1/50-1/100.000 sec); Off (1/50)
Infrared Illuminator			
Led		no.	10
		type	double beam arrangement
Projection distance	Internal	m	10-15
	external		5- 10
ON/OFF control			CDS Light sensor, with hysteresis 1.5-5 lux
General characteristics			
Protection		degree	IP66
Vandalproof			656.1 Kg (6424.1 N) max breaking strength
Power supply		V	12±10%
Power consumption	IR led On	mA	350
	IR led Off		233
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (hxØ)		mm	112.2x140
Weight		g	950

Accessories	code	Description	
BCA-DOMEVAND-W	918041	Strong Aluminium bracket for easy vandalproof wall mounting	
BCA-DOMEVAND-C	918040	Aluminium bracket for easy vandalproof in-ceiling mounting	

Cameras

Dome cameras

Varifocal CD-V66VH

CD-V66VH

Professional vandalproof camera designed to meet the increasing safety needs in sensible locations, such as airports, train stations, undergrounds, etc.

Protected by solid metal case and polycarbonate cap it can resist to impacts up to 656kg.

The high resolution 540 TVL of the 1/3" Sony Super HAD sensor and DSP function guarantee excellent image quality. A varifocal aspherical lens make installation fast and easy while the Day&Night function allows one to use this camera in any light condition.



Main features

- DSP HQ1
- Varifocal aspherical lenses
- AES, AGC, BLC, FL (On/off with dip-switch)
- 540 TVL high resolution
- 1/3" SONY Super HAD CCD
- Vandalproof (impacts of 656.1 kg)
- Autoiris
- Ceiling fixing support included
- Day&Night function

Item code			CD-V66VH
Video standard		type	918037 PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	540
DSP			Sony HQ1
Minimum illumination	@ F1.2	lux	0.25
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical
Focal length (f)	F1.2		2.9-10
Focus adjustment			manual, internal
Autoiris			galvanometric with internal manual regulation
IR filter			electronic
Controls			
Auto Gain Control (AGC)			On/Off
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)
General characteristics			
Protection		degree	IP66
Vandalproof			656.1 Kg (6424.1 N) max breaking strength
Power supply		V	12±10%
Power consumption		mA	149
Operating humidity		%	85 max
Operating temperature		°C	-10 to +50
Dimensions (hxØ)		mm	112.2x140
Weight		g	950

Accessories		code	Description	
BCA-DOMEVAND-W		918041	Strong Aluminium bracket for easy vandalproof wall mounting	
BCA-DOMEVAND-C		918040	Aluminium bracket for easy vandalproof in-ceiling mounting	

Dome cameras

Varifocal **CDIR28-EV66H**

CDIR28-EV66H

This dome camera is a perfect combination of quality and ease of use. It has a 1/3" Sony Super HAD sensor of high resolution (540 TVL) that, together with the digital processing (DSP Sony HQL), offers excellent quality images. The Day&Night system and the powerful uniform 28 LED illuminator guarantee excellent results in any light condition.

Moreover, the convenient assembling system allows one to adjust the camera to any direction while the external regulation of the focal allows one to easily define the shooting angle.



Main features

- Aspherical varifocal lenses with external regulation
- 28 led uniform illuminator (20 meters)
- Adjustable in 3 directions
- Double glass
- IP66 external use
- 540 TVL high resolution
- Strong aluminium structure

Item code			CDIR28-EV66H
Video standard		type	918059 PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	540
DSP			Sony HQ1
Minimum illumination	@ F2.0	lux	0.5
	IR Led on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			Internal
Video output			Composite video signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical
Focal length (f)		mm	3.5-8
Focus adjustment			manual, external
Controls			
Auto Gain Control (AGC)			On
Auto White Balance (AWB)			On (2400-9600 °K)
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	28
		type	triple beam arrangement
Projection distance	Internal	m	10-20
	external		5-15
ON/OFF control			CDS Light sensor, with hysteresis 3.1-3.7 lux
General characteristics			
Protection		degree	IP66
Power supply		V	12±10%
Power consumption	IR led On	mA	490
	led IR Off		140
Operating humidity		%	85 max
Operating temperature		°C	-10 to +50
Dimensions (hxØ)		mm	82.5x19
Weight		g	270

Cameras

Dome cameras

Varifocal **CD-VFDNH**

CD-VFDNH

This dome camera is designed for quality indoor shooting 24 hours a day (the Day&Night function guarantees excellent images both during the day and at night). It is equipped with varifocal aspherical lenses that allow an easy and precise selection of framing by guaranteeing, together with the autoiris, excellent images in any light condition.

The 1/3" SONY Super HAD CCD of high resolution (540 TVL) and the DSP Sony HQ1 ensure excellent video quality, thanks to the digital image processing.

Fixing support included.

Requires 12Vdc power supply.



Main features

- Aspherical varifocal lenses
- Day&Night function
- AES, AGC, BLC, FL (On/Off with dip-switch)
- 1/3" SONY Super HAD CCD
- Autoiris
- 540 TVL high resolution
- Fixing support included
- DSP SONY HQ1

Item code			CD-VFDNH
Video standard		type	918039 PAL
Video sensor			Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution		TVL	540
DSP			Sony HQ1
Minimum illumination	@ F1.2	lux	0.25
	B&W		0.15
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Lenses			aspherical
Focal length (f)		mm	2.9-10
Focus adjustment			manual, internal
Autoiris			galvanometric with internal regulation
Controls			
Auto Gain Control (AGC)			On/Off
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)
General characteristics			
Protection		degree	Indoor use
Power supply		V	12±10%
Power consumption		mA	130
Operating humidity		%	85 max
Operating temperature		°C	-10 to +50
Dimensions (hxØ)		mm	88x118
Weight		g	300

Accessories		code	Description	
BCA-DOME-W		918042	Bracket for easy wall mounting	

Dome cameras

Varifocal **CD-VF**

CD-VF

This camera is perfect for quality shooting outdoors. It is equipped with aspherical varifocal lenses that allow an easy and precise selection of the framing. Autoiris ensures excellent quality images in every light condition. 1/3" SONY Super HAD CCD offers good resolution (420 TVL) whilst the DSP Sony SS11R ensures an excellent video quality, thanks to the digital image processing. The fixing support is included and the required power supply is 12 Vdc.



Main features

- Aspherical varifocal lenses
- 1/3" SONY Super HAD CCD
- AES, AGC, BLC, FL (On/Off with dip-switch)
- Autoiris
- 420 TVL good resolution
- Fixing support included

Item code			CD-VF
Video standard			918038
type			PAL
Video sensor			Colour CCD 1/3" Sony Super HAD
Pixels (HxV)			537x597
Horizontal Resolution			420
DSP			Sony SS11R
Minimum illumination		@ F1.2	lux 0.15
Signal-to-Noise Ratio (S/N)			dB >48 (AGC Off)
Synchronization			internal
Video output video			composite signal, 1 Vpp 75 Ω BNC
Lens			
Lenses			aspherical
Focal length (f)		mm	2.9-10
Focus adjustment			manual, internal
Autoiris			galvanometric with internal manual regulation
Controls			
Auto Gain Control (AGC)			On/Off
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto electronic shutter (AES)			On (1/50-1/100.000 sec), Off (1/50)
General characteristics			
Protection		degree	Indoor use
Power supply		V	12±10%
Power consumption		mA	83
Operating humidity		%	85 max
Operating temperature		°C	-10 to +50
Dimensions (hxØ)		mm	88x118
Weight		g	380

Accessories		code	Description	
BCA-DOME-W		918042	Bracket for easy wall mounting	

Cameras

Dome cameras

Fixed optics **CDIR23-66** New

CDIR23-66

This is the ideal camera for indoor and outdoor shooting under any light conditions. The 23 integrated LEDs ensure night vision up to 10 m and the double glass system prevents every possible reflection and halo. Easy to orientate, thanks to a comfortable fixing system, and it has an aluminium case that ensures excellent heat dispersion.



Main features

- Uniform illuminator with 23 LEDs (10 m)
- Adjustable in 3 directions
- 420 TVL good resolution
- Double glass
- IP66 protection level
- Aluminium structure

Item code			CDIR23-66
Video standard		type	918134 PAL
Video sensor		type	Colour CCD 1/3" Sony Super HAD
Effective Pixels (HxV)		no.	537x592
Horizontal Resolution		TVL	420
DSP			Sony
Minimum illumination	@ F2.0	lux	0.5
	IR LEDs on		0
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)
Synchronization			internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
lenses			aspherical
Focal length (f)	F2.0	mm	4.3
Controls			
Auto gain control (AGC)			On
Auto white balance (AWB)			On (2400-9400°K)
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)
Infrared Illuminator			
Led		no.	23
		type	with triple beam arrangement
Projection distance	Internal	m	5-10
	external		0-17
ON/OFF control			CDS Light sensor, with hysteresis 2.6-2.7 lux
General characteristics			
Protection		degree	IP66
Power supply		V	12±10%
Power Consumption	IR led On	mA	260
	IR led Off		110
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (lxØ)		mm	69x94
Weight		g	380

Dome cameras

Fixed optics **CD-COL** and **CD-MINIDOME**

New

CD-MINIDOME

These colour cameras are perfect for video-surveillance in illuminated and protected locations; they can fit in any environment.

Good resolution (420 TVL) of the 1/3" Sony Super HAD CCD supplies good quality images.

Equipped with a Series of automatic controls, such as AES, AGC, BLC and FL, that optimize the quality of images under any condition.

The CD-MINIDOME camera is equipped with a sturdy white metal case.

Like all other Fracarro dome cameras, they are fed with a direct 12V current (adapter not included).



Main features

- 1/3" CCD Super Sony Super HAD
- Good sensitivity 0.3 lux@F2.0
- 420 TVL good resolution
- Fixing support included

Item code			CD-COL 918036	CD-MINIDOME 918133
Video standard		type	PAL	
Video sensor		type	Colour CCD 1/3" Sony Super HAD	
Pixels (HxV)		no.	537x597	
Horizontal Resolution		TVL	420	
Minimum illumination	@ F2.0	lux	0.3	1
Signal-to-Noise Ratio (S/N)	dB		>50 (AGC Off)	
Synchronization			internal	
Video output			video composite signal, 1 Vpp 75 Ω on BNC	
Lens				
Focal length (f)	F2.0	mm	3.6	
Controls				
Auto Gain Control (AGC)			On	
Auto White Balance (AWB)			On (3200-9200°K)	
Back Light Compensation (BLC)			On	
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec)	
General characteristics				
Protection			Indoor use	
Power supply		V	12±10%	
Power Consumption		mA	75	150
Operating Humidity		%	85 max	
Operating Temperature		°C	-10 to +50	
Dimensions (hxØ)		mm	70x112	61x95
Weight		g	220	290

Cameras

Hidden cameras

CAM-MIRROR

This special hidden camera is ideal for discreetly monitoring areas, such as cash machines, airports, etc., from hidden vantage points. The camera is concealed by a special reflective surface that looks like a regular mirror.

CAM-MIRROR



Main features

- 420 TVL good resolution
- 1/3" SONY Super HAD CCD
- Easy to orientate
- Innovative solution

Item code			CAM-MIRROR 918012
Video standard		type	PAL
Video sensor		type	CCD 1/3" Sony Super HAD
Effective pixels (HxV)	PAL	no.	500x582
Horizontal resolution		TVL	420
Minimum illumination		lux	0.2
Signal-to-Noise Ratio (S/N)		dB	>48
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Focal length (f)		mm	3.6 @ F2.0
Controls			
Auto Gain Control (AGC)			On
Auto White Balance (AWB)			On (2500-9500°K)
Back Light Compensation (BLC)			On
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec)
General characteristics			
Power supply		V	12±10%
Power consumption		mA	100
Operating humidity		%	0-95
Operating temperature		°C	-10 to +50
Dimensions	mirror (hxl)	mm	280x230
	bracket (lxwxh)		195x100x71
Weight		g	1135

Hidden cameras

CAM-SPOTLIGHT

A professional camera hidden within a spotlight particularly useful for installation in cafés, banks, cash machines, museums, etc. The mirror specifications allow for the camera to be hidden and carry out discreet surveillance while maintaining excellent quality.

CAM-SPOTLIGHT



Main features

- 420 TVL good resolution
- 1/3" SONY Super HAD CCD
- Installation in false ceiling
- Innovative and elegant design

Item code			CAM-SPOTLIGHT 918011
Video standard		type	PAL
Video sensor		type	CCD 1/3" Sony Super HAD
Effective pixels (HxV)		no.	500x582
Horizontal Resolution		TVL	420
Minimum illumination		lux	0,2
Signal-to-Noise Ratio (S/N)		dB	>48
Synchronization			Internal
Video output			video composite signal, 1 Vpp 75 Ω on BNC
Lens			
Focal length (f)		mm	3.6 @F2.0
Controls			
Auto gain control (AGC)			On
Auto white balance (AWB)			On (2500-9500°K)
Back light compensation (BLC)			On
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)
General characteristics			
Power supply		V	12±10%
Power consumption		mA	100
Operating humidity		%	0-95
Operating temperature		°C	-10 to +50
Dimensions (hxØ)		mm	48x90
Weight		g	235

Cameras

Hidden cameras

CAM-SMOKE and CAM-BULLET

CAM-SMOKE

This camera is hidden perfectly within a realistic smoke detector and enables excellent quality footage. It is easy to install due to the supplied support and it offers a convenient wide angle lens view.

CAM-BULLET

Small and compact, the CAM-BULLET colour camera has 1/3" Sony Super HAD CCD with high resolution (470 TVL). The ideal solution to obtain good quality video footage in both indoor and outdoor (IP66) discreet installations. The strong bracket guarantees a stable fixing while the wide angle view allows for the monitoring of small and medium areas.



Main features

- Easy to conceal
- 1/3" SONY Super HAD CCD
- 470 TVL high resolution (CAM-SMOKE 420 TVL)
- 0.3 lux@F2.0 good sensitivity
- Wide angle view 3.6 mm
- IP66 protection level (CAM-BULLET)

Item code			CAM-SMOKE 918071	CAM-BULLET 918103
Video standard		type	PAL	
Video sensor		type	CCD 1/3" Sony Super HAD	
Effective pixels (HxV)		no.	537x597	752x582
Horizontal resolution		TVL	420	470
Minimum illumination	@ F2.0	lux	0,3	0,1
Signal-to-Noise Ratio (S/N)		dB	>48 (AGC Off)	
Synchronization			internal	
Video output			video composite signal, 1 Vpp 75 Ω on BNC	
Lens				
Focal length (f)	F2.0	mm	3.6	
Controls				
Auto gain control (AGC)			On	
Auto white balance (AWB)			On	
Back light compensation (BLC)			On	
Auto electronic shutter (AES)			On (1/50-1/100.000 sec)	
General characteristics				
Protection			-	IP66
Power supply		V	12±10%	
Power Consumption		mA	145	120
Operating Humidity		%	85 max	
Operating Temperature		°C	-10 to +50	
Dimensions (hxØ)		mm	60,5x106,5	78x23
Weight		g	220	90

Illuminators

IRLED Series

These infrared LED illuminators enable excellent lighting conditions, ensuring reduced power consumption and costs. They are available in different strengths to meet all installation requirements. They are made for high efficiency installations and guarantee an average life of 20,000 hours. The illumination distance is just an indication because it depends on numerous factors, such as co-efficiency of scene reflection, the camera's sensitivity to IR radiation, optic luminosity, etc.



Main features

- Aluminium frame
- IP66 protection level
- CDC integrated sensor
- DC jack cable
- Wall bracket included

Item code		IRLED-15 M 918005	IRLED-30 M 918006	IRLED-60 M 918007
Power supply	V	12		
Consumption	W	3.5	8	5.5
Material		Aluminium		
Irradiation angle	°	80	70	60
Led type	no.	6	12	12 with special concentrating lens
Switching control		Light sensor CDS, with hysteresis 8-10 lux		
Distance	m	15	30	60
Protection		IP66		
Weight	g	430	950	
Operating temperature	°C	-10 to +55		
Dimensions (lxwxh)	mm	128x60x60	250x95x95	

Cameras

Illuminators

16IR Series

These infrared illuminators are recommended for night vision when used with black and white or colour cameras with a day/night function. They enable efficient and discreet lighting as they are completely invisible.

Lamps with different lighting beams and different light strengths are available to meet any installation requirement.

The illumination distance is just an indication as it depends on numerous factors such as: co-efficiency of scene reflection, sensitivity of the camera to IR radiation, luminosity of optics etc.



Main features

- Aluminium painted with epoxy polyester powders
- Stainless steel screws
- 850 nm optical filter
- IP65 protection level

Item code		16IR65/12 999565	OLP50SP 999883	OLP50FL 999882	OLP50WFL 999881
Description		Illuminator 50W	Lamps for illuminator 50W		
Power supply		12V / 12V~			
Consumption	W	50			
Lamp type		-	SPOT	FLOOD	WIDEFLOOD
Irradiation angle wxh	°	-	10x10	40x40	60x60
Distance	m		20	16	12
Average life	hours	-	2000		
Protection		IP66	-	-	-
Weight	Kg	1,2	-	-	-
Dimensions (l x p x h)	mm	108x146x124,5	-	-	-

Item code		16IR300 999231	16S300 999232	16F300 999233	16WF300 999234
Description		Illuminator 300W	Lamps for illuminator 300W		
Power supply	V~	220-240			
Consumption	W	300			
Lamp type		-	SPOT	FLOOD	WIDEFLOOD
Irradiation angle wxh	°	-	10x8	23x10	40x20
Distance	m		65	50	35
Average life	hours	-	3000		
Protection		IP65	-	-	-
Weight	Kg	5,3	-	-	-
Dimensions (lpxxh)	mm	213x262x235	-	-	-

Accessories	code	Description	
AL/IR65W	999564	12V power supply ~ 75W in waterproof case (IP56) for use with illuminator 16IR65/1	
IR-ON-OFF	918098	230 V~ night switch system compatible with both illuminators	

Accessories

ADAPTERS

A Series of convenient, reliable and safe adapters providing the ideal solution for every installation need. All the adapters are protected from overloading

in order to guarantee the perfect efficiency of the installation. The PSU-12V2A, with a European plug, supplies a maximum 2A current.

The PSU-12V1A is compact, enabling installation directly in 503 connector blocks.

Designed for use in large installations, the PSU12V4A ensures a maximum current of 4A with an adjustable output to compensate for possible cable losses.

Finally, the TR-24VAC20VA is a powerful 24Vac transformer that is extremely useful in connecting cameras located far away.



Item code		PSU-12V1A 918096	PSU-12V2A 918002
Power supply	V ~	220-240, 50/60	
Input connector		Protected screw connectors	European plug
No load output voltage		12 V	12 V
Rated output voltage		12 V	12 V
Output connector		Screw connectors with standard DC jack	1.4 m cable with standard DC jack
Max power output	W	12	24
Overload protection		Electronic	Electronic
Operating temperature	°C	-5 to +50	-5 to +40
Operating humidity	%	90	90
Dimensions (l x p x h)	mm	54,5x50,8x32	98x50x31
Weight	g	70	170
Equipment		Screwdriver	-
Assembly		503 connector block	-

Item code		PSU-12V4A 918093	TR-24VAC20VA 918095
Power supply	V ~	220-240, 50/60	
Input connector		Protected screw connectors	Protected screw connectors
No load output voltage		12 V	12 V
Rated output voltage		12-14V adjustable	24 V
Output connector		Screw connectors	Screw connectors
Max power output	W	48	20
Overload protection		Electronic	PTC
Operating temperature	°C	-5 to +50	-20 to +50
Operating humidity	%	90	90
Dimensions (l x w x h)	mm	105x93x66.5	52.5x93x68.5
Weight	g	380	380
Equipment		Screwdriver, fixing screws	Screwdriver, fixing screws
Assembly		DIN bar	DIN bar

Cameras

Accessories

OTHER ACCESSORIES

Accessories	code	Description	
BCA-14	918110	Camera brackets for indoor installation available in either 140 mm or 190 mm lengths. Made in nylon, with blocking screws in anodized aluminium, they can support up to 2 Kg. For wall and ceiling installations with a panoramic joint, 90° vertical and 360° horizontal. Suitable for all Fracarro cameras, in particular box cameras	
BCA-19	999179		
BCA-16	918107	Camera brackets for outdoor installation have a 160 mm length (weight 180g). Made in aluminium, they support up to 2 Kg. Wall and ceiling installations with panoramic joint (90° vertical and 360° horizontal).	
CABLE2-20M	918004	Cable for video and power supply with pre-connected BNC and DC jack. To be used with cameras having up to 300 A consumption.	
BNC10-RG59	918100	Crimping BNC package with 10 connectors for RG59 cable.	
BNC-FF	918101	BNC adapter female-female	
BNC-CRIMP	918102	Crimping tool for BNC connectors	



Video Distribution



Plastic fiber systems

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UTP systems

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Modulators

▶ MOD-TVCH5	70
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Video Distribution

Plastic fibre systems

FP Series

The transmission system on plastic fibre is an innovative solution able to solve all problems relevant to traditional video cables.

The small diameter of 2.2 mm, the curving radius lower than 20 mm and the operation of a temperature between -20 to + 60° C allows an easy laying of the existing raceways so that both time and money are saved. The FP Series plastic fibre systems are ideal for all installations, thanks to their immunity to electromagnetic interferences, galvanic current, humidity and corrosion.

Fracarro proposes 3 different transmitter-receiver kits that allow to cover maximum distances of 150, 300 and 600 meters.

FP-TXRX150
FP-TXRX300
FP-REP600



Main features

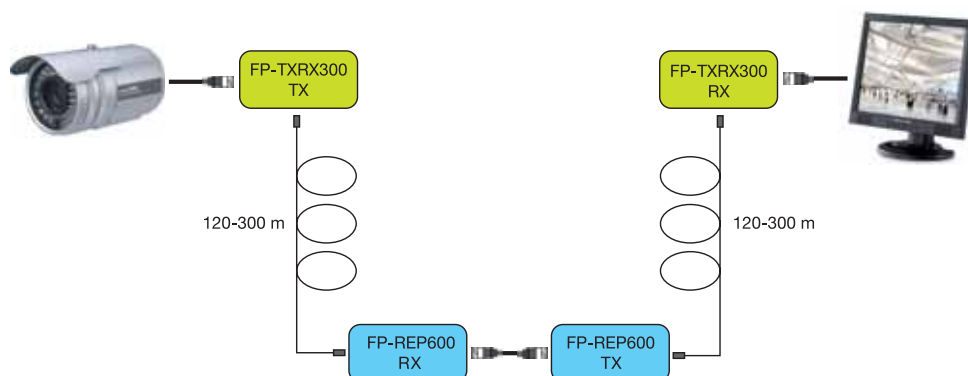
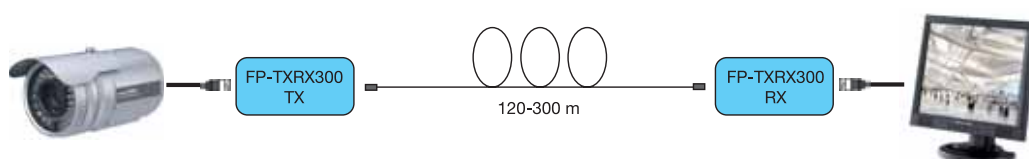
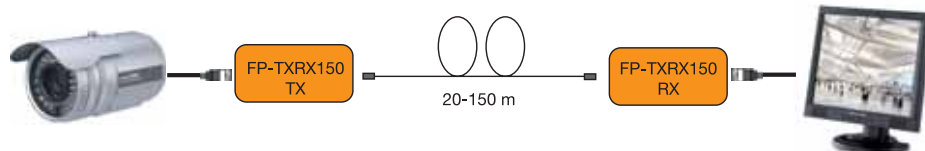
- Maximum sturdiness and mechanic resistance to humidity
- Operates with any analogue camera
- Allows passage in existing raceways
- Plastic fibre with a diameter of only 2.2mm
- No electrical disturbance or RF on the images, no oxidation
- Prepared to be fixed on a DIN BAR

Item code			FP-TXRX150 918017	FP-TXRX300 918018	FP-REP600 918019
Bandwidth		MHz	0-5,5	0-6	0-6
Distance		m	10-150	120-300	300-550
Optical output connector			SMA	SMA	SMA
Gain control			manual adjustment	AGC	-
General characteristics					
Power supply			12V	12-36V / 24~	12V
Power consumption	Tx	mA	80	80	100
	Rx		50	80	100
Operating temperature		°C	-20 - +60		
Dimensions (l x p x h)	Tx	mm	43x27x24	62x44x25	52x28x26
	Rx		52x29x26	67x46x30	42x24x26
Weight	Tx	g	70	120	130
	Rx		100	130	100

Accessories	code	Description
FP-200M	918020	Plastic optical fibre 200 meters
FP-500M	918021	Plastic optical fibre 500 meters
FP-SPLIT	918025	2 way optical splitter
FSMA-CRIMP	918022	F-SMA crimping tool
FSMA-10	918023	F-SMA crimping connectors (10 pcs)
FSMA-ADAPTER	918024	F-SMA female-female adapter
FP-CLEANTOOL	918026	Cleaning tool for crimped plastic fiber
PAPER-1000	918027	1000 abrasive paper sheet

Installation example

FP



Video Distribution

UTP systems

UTP Series

The **UTP-RXTX** and **UTP-4RXTX** systems can be used either as transmitters or receivers for the passive video distribution on UTP cable (CAT5/6) in video-surveillance installations.

Easy to use and reliable, they guarantee the complete compatibility between the camera and the twisted cable, which is more flexible and safe.

The video signal is balanced and equally shared on the twisted couple by making the transmission much safer to interferences than the classic coaxial cable; therefore, distances up to 300 meters can be reached.

The flexibility and convenience of the UTP cable together with their easy use, guarantee saving time and installation costs.

The **UTP-RXTX** set contains 1-channel transceiver couple while the **UTP-4RXTX** has 4 video channels.



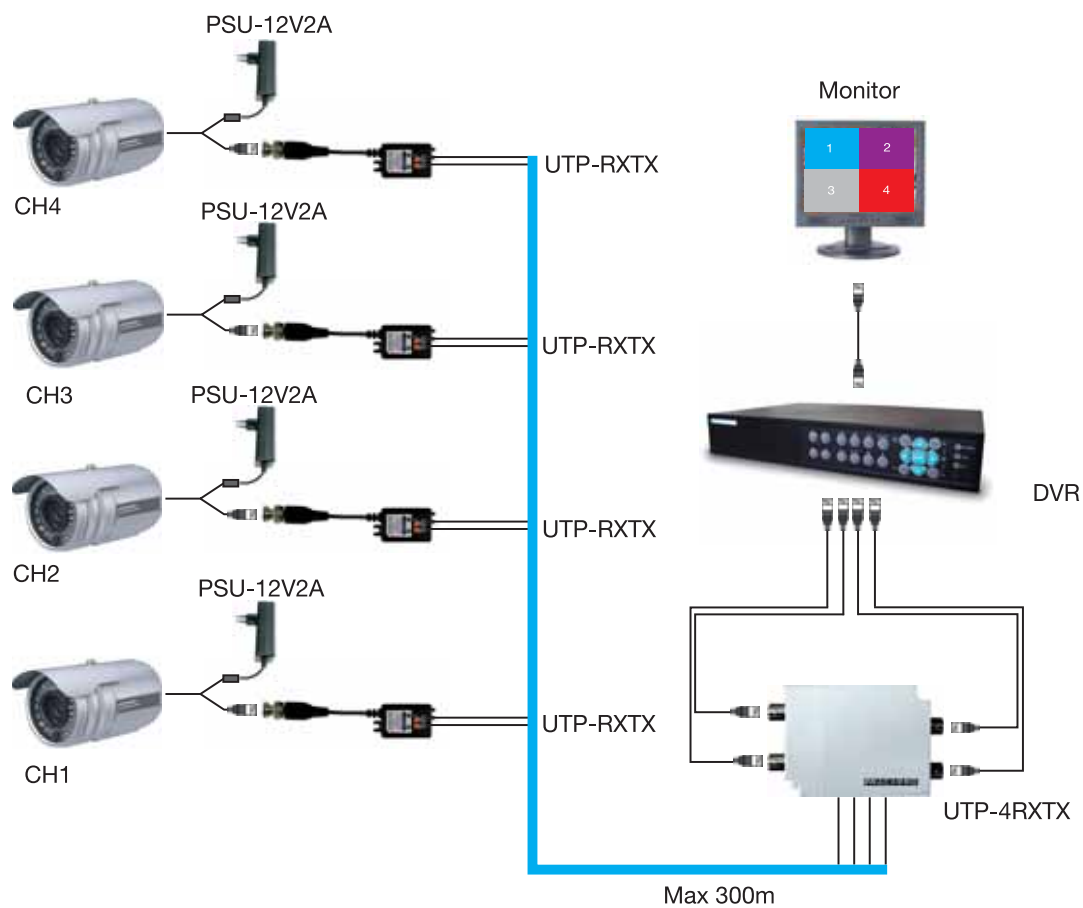
Main features

- Maximum distance of 300 meters
- Assembly on watertight case

Item code		UTP-RXTX 918070	UTP-4RXTX 918069
Transmission mode			
Video input	n.°	1	4
	type	BNC - 1Vpp 75 Ω	
Video output	channel	1	4
	type	UTP/FTP CAT5/6	
Receiving mode			
Video input	channel	1	4
	tipo	UTP/FTP CAT5/6	
Video output	n.°	1	4
	tipo	BNC - 1Vpp 75 Ω	
General characteristics			
Protection	degree	IP50	
Distance	metres	300 max	
Power consumption	W	0	
Operating temperature	°C	-10 – +40	
Dimensions (lxpxh)	mm	18x50x18	98x56x29
Weight	g	18	70

Installation example

UTP



Video Distribution

UTP systems

UTP Series

These devices greatly simplify the harness of the cameras because they allow it to distribute 2 video signals and the necessary power supply in one UTP cable.

The **UTP-TX12** transmitter connects directly to the camera and uses two couples of wires to distribute the video and power supply. The **UTP-4RX12** receiver can receive a maximum of 4 video signals and provides the cameras with 12V power.

The combination of these two systems makes the installation faster and ensures good operation up to 80 meters.



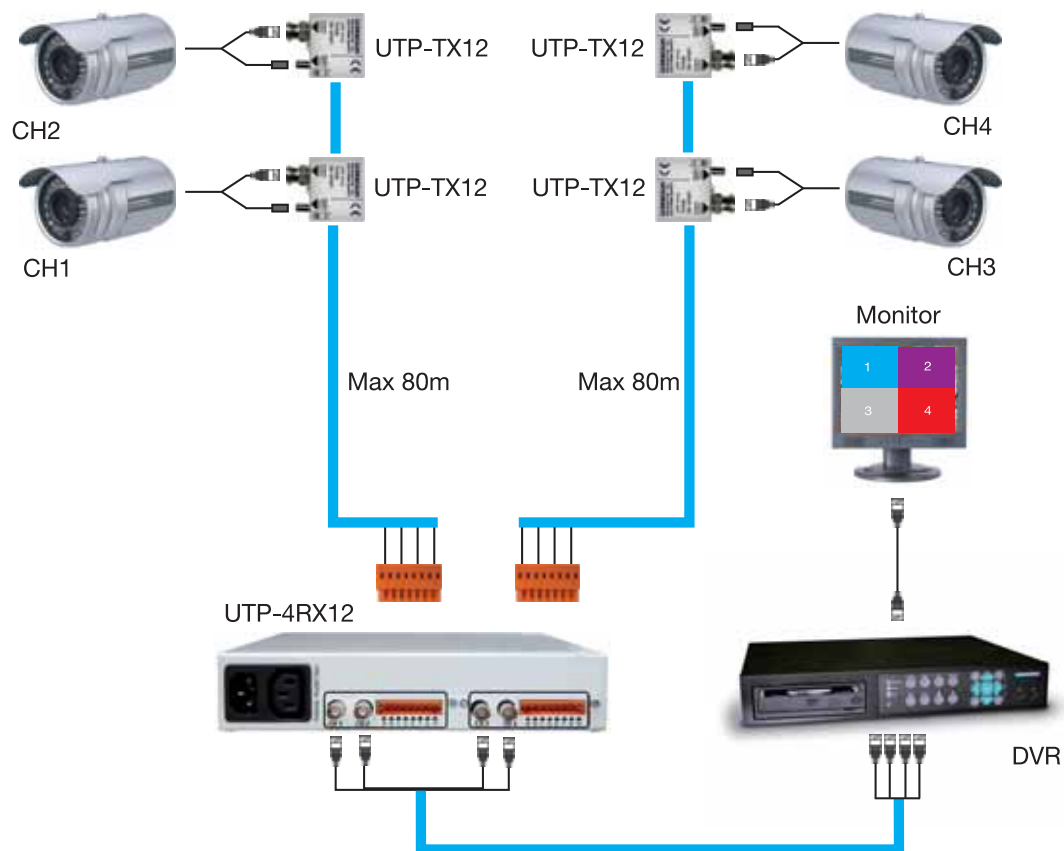
Main features

- Power supply and video distribution (2 cameras on 1 UTP cable)
- Very easy installation
- Up to 80 meters (max 300 mA per camera)

Item code			UTP-TX12 918066	UTP-4RX12 918067
Video input		n.°	1	4
		type	BNC - 1Vpp 75 Ω	UTP/FTP CAT5/6
Video output		channel	1	4
		type	UTP/FTP CAT5/6	BNC - 1Vpp 75 Ω
General characteristics				
Protection		degree	IP50	
Distance		metres	80 max	
Power supply ~		V, Hz	-	100–240, 50/60 IN/OUT
Power supply for cameras			DC jack	12±1 V (max 450 mA)
Power consumption	Stand-by	W	0	0,6
	max			25
Operating temperature		°C	-10 – +40	-10 – +40
Dimensions (l x p x h)		mm	40x50x22	240x173x47
Weight		g	37	882

Installation example

UTP-12 Series



Video Distribution

UTP systems

UTP Series

UTP-4RXA

The **UTP-4RXA** is a video signal receiver suitable for the installation of 4 long distance cameras (600 meters), using a UTP cable. The UTP-RXTX or UTP-4RXTX passive transmitters can be used for the transmission.

The UTP-4RXA includes an amplification system for the reception of video signals, which allows it to correctly regulate the amplification of each channel and achieve the best output result.



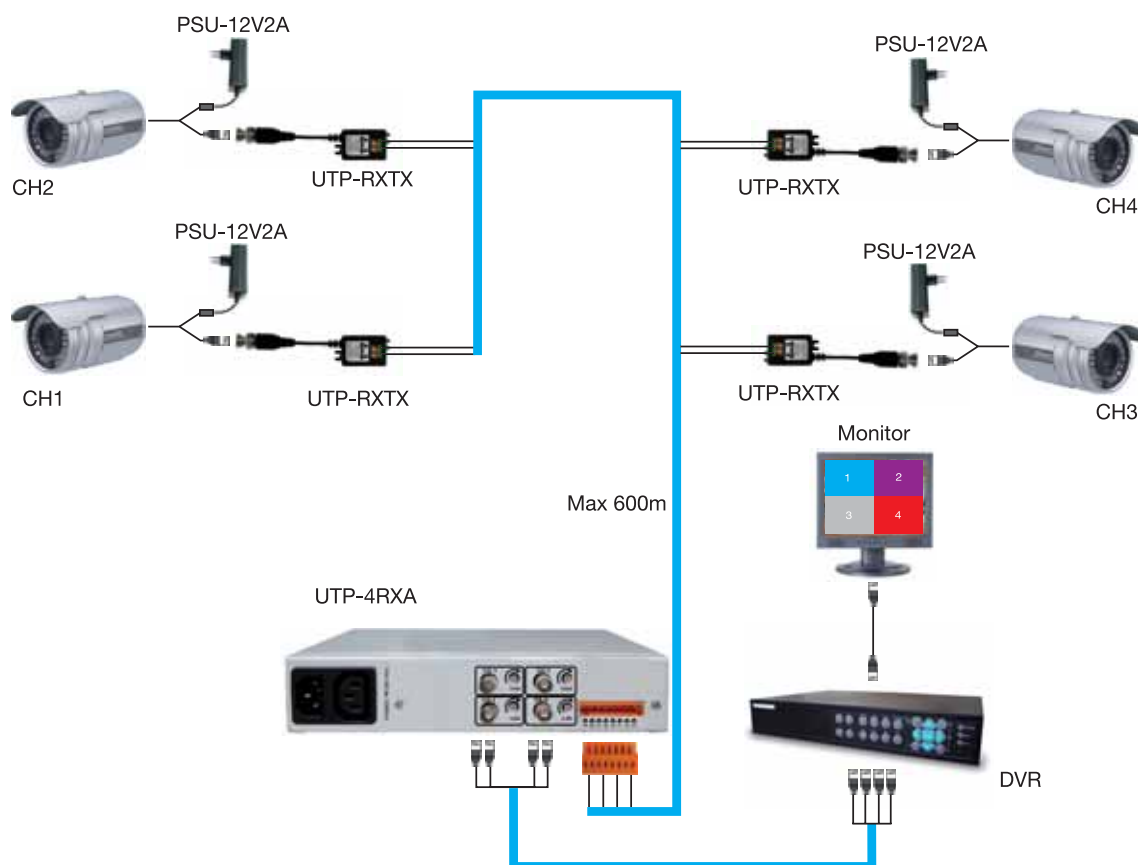
Main features

- 4 cameras on one UTP cable
- Independent adjustable gain
- Up to 600 meters
- Wall installation
- Metal case

Item code			UTP-4RXA 918068
Video input		canali	4
		type	UTP/FTP CAT5/6
Video output		n.°	4
		type	BNC - 1Vpp 75 Ω
General characteristics			
Distance		metres	600 max
Power supply ~		V, Hz	100-240, 50/60 IN/OUT
Consumption	stand-by	W	0,6
	max		2,5
Operating temperature		°C	-10 – +40
Dimensions (l x p x h)		mm	240x173x47
Weight		g	848

Installation example

UTP-4RXA



Video Distribution

Modulators

MOD-TVCH5

New

MOD-TVCH5

Enhanced and renovated, the MOD-TVCH5 is a multi modulator designed for small sized domestic video surveillance installations. It allows one to display up to 5 cameras on any home television set by modulating each BNC input on a proper programmable channel. It integrates a cyclical sequencer, which can be programmed, and allows one to display all cameras on one TV program.

The RF integrated mixer and the high output power (100 dBμV) allow one to use the existing distribution installation easily.

The BNC connections and the passing outputs allow one to easily connect the cameras to a DVR, ensuring complete safety of the area under surveillance.

Thanks to the audio input, the MOD-TVCH5 can be used to distribute the audio-video signals all over the house, for example, by connecting DVD readers and digital decoders.



Main features

- 4 video channels + 1 audio video
- 5 video Loop outs for DVR connection
- Frequencies programmable both in VHF and UHF
- High adjustable output power (100 dBμV max)
- Cyclical sequencer, which can be completely programmed for duration (1-60 sec) and channels
- Can be programmed by Dip-Switch and TPE

Other features

- Integrated terrestrial mixer and adapter
- Test function per channel

Item code		MOD-TVCH5 918217
Video signal		
Inputs	no.	5
Outputs		5
Standard		PAL -BG, D/K, I, N, H, NTSC-M
Connectors	type	BNC
Level	Vpp	1
Impedance	Ω	75
Audio signal		
Inputs	no.	1
Outputs	no.	0
Standard		Mono
Connectors	Tipo	BNC
Level	mVrms	0,5
Impedance	KΩ	10
Video modulation		
Type		PAL, DSB
Modulation depth	%	82,5
Signal-to-Noise ratio (S/N)	dB	>50
Frequencies	MHz	175÷231, 335÷855
Regulation steps	MHz	0,25 (with TPE)
Audio modulation		
Type		FM 50μs pre-emphasis
Deviation	KHz	45 (500 mVrms @ 1KHz)
Signal-to-Noise ratio (S/N)	dB	>50
Distortion	%	<1 @ 1KHz

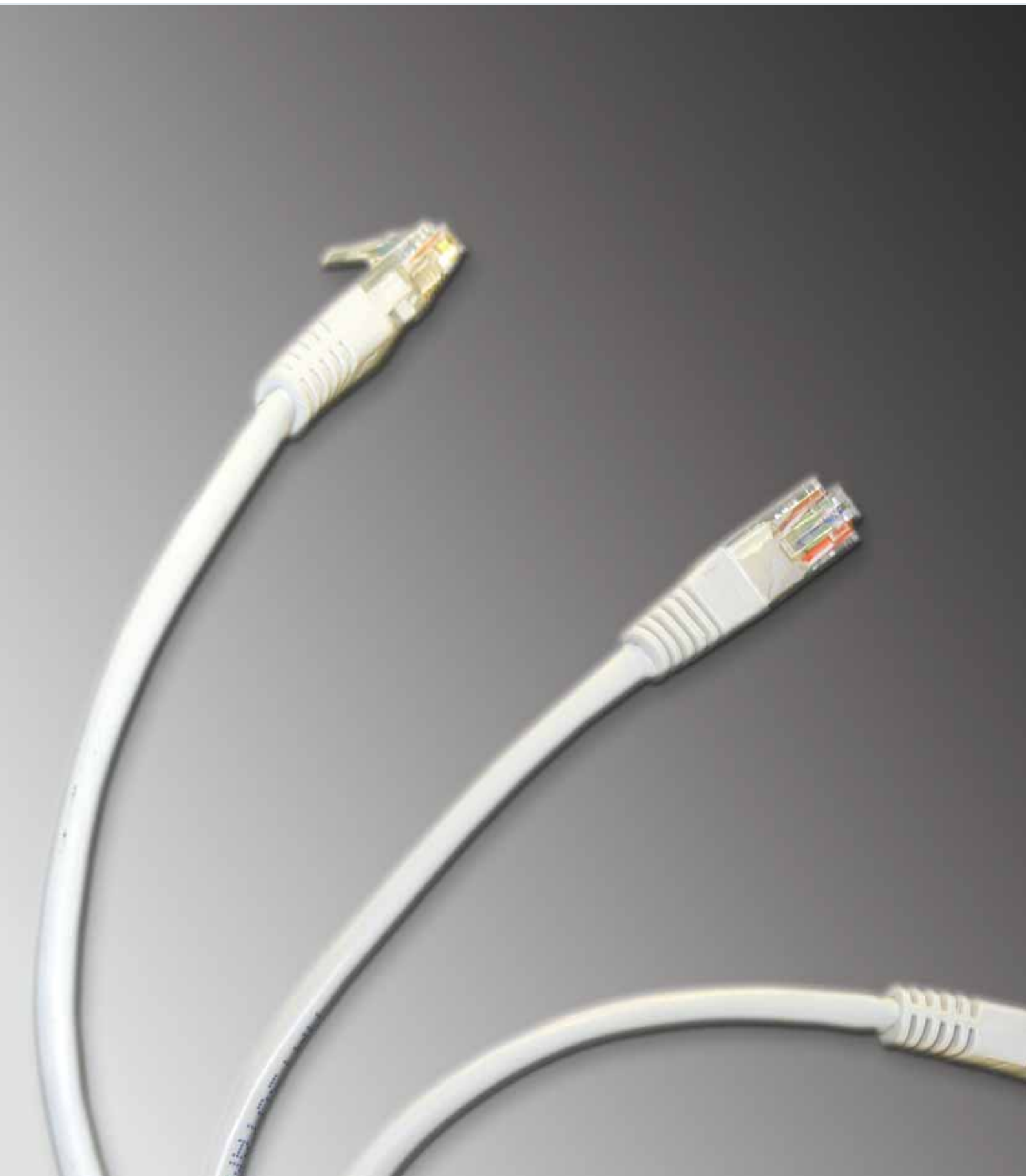
Amplification		
Output level	dB μ V	80-100 adjustable by trimmer
Mixer		
Inputs	no.	1
Outputs	no.	1
Passband	MHz	5-862
Loss	dB	< 2.5
Connectors	type	F, female
General characteristics		
Power supply	~ V, Hz	240-260, 50/60
Consumption	W	12
Operating humidity	%	80
Operating temperature	°C	-5 to +50
Dimensions (lxwxh)	mm	240x65x115
Weight	g	1300
Assembly		on wall

Installation example

MOD-TVCH5



IP Systems



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IP Systems

IP systems

CSD-26DN67-IP

New

CSD-26DN67-IP

Professional vandal resistant camera designed and made to meet the increasing safety needs in sensible locations, such as airports, train stations, undergrounds, etc. Protected by solid metal casing and a polycarbonate cap; it can resist impacts up to 750 kg.

The 540 TVL high resolution of the 1/3" Sony Super HAD CCD sensor and DSP function guarantee excellent image quality. The 2.9-10 mm varifocal lens makes the installation quick and easy.

This camera is equipped with a double video output: an analogue output on BNC and Ethernet on RJ45 to guarantee extremely flexible use.

Its advanced features and the powerful management of the network make the camera suitable to all installation's needs.



Main features

- 540 TVL high resolution
- Wide Dynamic range function
- Day&Night function with IR mechanical filter
- 312X (26X optical, 12X digital) zoom
- 24 3D privacy masks (Pan, Tilt, Zoom)
- High speed of Pan 430°/sec, Tilt 200°/sec
- 4 tours which can be saved and a motion detector
- Pointing precision of Pan 0.02°
- MPEG4 ASP compression
- Bi-directional audio
- Max Full D1 (720x576) resolution
- Real time (25fps @ Full D1)
- NVR software included, max. 16 cameras (64 ch optional)
- Compatible with Windows XP and Vista
- IP67 protection level, Vandalproof (impacts of 750 kg)
- LAN and WAN double stream

Item code			CSD-26DN67-IP 918112
Video standard			PAL
Video sensor		type	CCD 1/4" Sony Ex View HAD
Effective Pixels (HxV)		no.	440.000
Horizontal Resolution		TVL	560
Wide Dynamic Range (WDR)			included, 128X
Minimum illumination	colour	lux	1@ F1.6
	B&N		0.15 @ F1.6
Signal-to-Noise Ratio (S/N)		dB	>50
Synchronisation			Internal/line-lock
Video output			video composite signal, 1 Vpp 75 Ω Ω
Lens			
Lenses			aspherical, Day&Night
Focal length (f)		mm	3.5-91 (F1.6-F3.8)
Zoom			312x (optical 26x)
IR filter			mechanical
Image Control			
Auto Gain Control (AGC)			Auto
Auto White Balance (AWB)			On, ATW, One-push
Back Light Compensation (BLC)			On/Off
Auto Electronic Shutter (AES)	auto	sec	1/1 to 1/10,000
	manual	steps	22
	slow		On/Off
Flickerless (FL)			On/Off
Focus			auto (normal/low sensibility), AF One-push
			manual, infinity, interval AF, Zoom trigger AF
AE control			Auto/manual/bright/EVC/BLC
EV compensation (EVC)		dB	-10.5 -+10.5 (15 steps)
Day&Night function			auto/manual with IR mechanical filter
Mirror image			on/off
PTZ function			
Rotation angle	Pan	°	360
	Tilt		92
Pan rotation speed		°/sec	0.1-90 (with turbo 150)
Tilt rotation speed		°/sec	0.1-45
Preset speed	Pan	°/sec	430
	Tilt		200
Pan and Tilt proportional with zoom			On/Off
Pan and Tilt limits			can be defined by the user
Pan accuracy		°	0.02

Auto Flip			On/Off
Zoom limits			x26, x52, x104, x208, x312
Programming presets		no.	256
Preset Titles		characters	20 max
Program Tours			4 tours (up to 6 minutes of manual control)
Privacy Zones			Max 24 zones (3D Privacy Zone)
Scan Function			Random, frame and auto-scan
Alarms	Input Output	no.	6 1
Other functions			motion detector / absolute xyz position
Network characteristics			
Bit-rate		Kb	28-3000 adjustable
Compression			MPEG4 ASP
Password of protection			Alphanumeric definable by OSD
Resolution			Full D1 (720x576)/CIF (352x288)/ QCIF (176x144)
Frame rate			real time, max. resolution (25 fps @Full D1)
Ethernet			10/100 Base-T for LAN and WAN networks
Supported protocols			TCP/IP, HTTP, ARP, PPPoE, DDNS, DHCP, RTP/RTSP, IGMP
Software			NVR max 16 cameras included (64 ch optional)
Software compatibility			Windows 2003, Windows XP, Windows Vista
Motion detection			3 zones which can be selected
Alarms		input output	6 (NO/NC) 1 (which can be activated by motion detection, from alarm input and remotely)
Control interface			
Communication protocol			Pelco-P/D, GE, Bosch, Ernitec, MESSOA P/D
Serial communication/ baud rate			RS485/2400, 4800, 9600, 19200 bit/s
General features			
Protection		degree	IP67
Vandalproof			resistant to impacts of 750 kg
Power supply		V	24
Power Consumption		W	46
Operating Humidity		%	20-80
Operating Temperature		°C	-20 to +60 (with heater and blower included)
Dimensions (hxØ)		mm	324x216.6
Weight		g	3500

Accessories	code	Description	
BCA-SPEED-C	918083	In-ceiling mount, white steel 350x350x360 mm	
BCA-SPEED-R	918086	Pendant pipe mount, white aluminium and steel 209x253x150 mm	
BCA-SPEED-W	918087	Wall mount, white steel 246x140x223 mm	
BCA-SPEED-CORN	918084	Corner mount adaptor, white 377x260x179 mm	
BCA-SPEED-POLE	918085	Pole mount adaptor, white 240x260x60 mm	
SPEED-SUNSHIELD	918092	Sunshield, white aluminium 257x257x189 mm	
DVR-SPEED-KB New	918125	New remote control keyboard for Fracarro units (DVR Series MILANO and VENEZIA and CSD Series Speed cameras). Allows one to completely control 256 units (DVRs and speed dome cameras together) connected by cable connection (RS-485). Equipped with a comfortable graphic display for programming and a 3-axis joystick to manage Pan/Tilt/Zoom.	

IP Systems

IP systems

CB-540TDNX-IP

New

Professional hybrid camera equipped with a double video output: analogue output (BNC) and Ethernet (RJ45) to guarantee the maximum flexibility of use.

The True Day&Night function allows one to pass from black and white mode when the luminosity is under 2 lux and the IR filter is simultaneously removed. This allows one to obtain a high sensitivity in black and white and a perfect reliability of colours during the day. The very high resolution (540 TVL) and the DSP Sony HQ1 control provide images of very high quality and luminosity.

This product's strong point is the excellent sensibility in darkness (0.05 lux @ F1.0) provided by the 1/3" Sony Ex View HAD CCD sensor and the quality and fidelity to colours is ensured by the True Day&Night function with IR mechanical filter. These advanced camera characteristics are united with the reliable IP module able to generate a fluid audio video multi-protocol flow. All the advanced functions, such as motion detection and video settings can be easily used, thanks to the web interface or by using the powerful NVR software, which allows one to monitor up to 16 cameras.

It can be fed with a 12V direct current or directly by means of the network using the POE.

CB-540TDNX-IP



Main features

- 1/3" CCD Sony Ex View HAD
- 540/570 TVL high resolution (Full D1/CIF/QCIF)
- High infrared sensitivity (700-1100 nm), 0.05 lux @F1.0
- Day & Night function with mechanic IR filter
- DSP Sony HQ1
- AGC, BLC, AWB, FL, AES
- Audio function
- MPEG4 SP compression
- Multi-protocol
- NVR software included, max. 16 cameras (64 ch optional)
- Compatible with Windows XP and Vista
- 12 Vdc power supply or by POE (6W)
- Lens not included (see specific paragraph)

Item code	CB-540TDNX-IP 918120		
Video standard		type	PAL
Video sensor		type	Colour CCD 1/3" Sony Ex View HAD
Pixel (HxV)		no.	795x596
Horizontal resolution	Colour	TVL	540
B&W			570
DSP			Sony HQ1
Gamma correction			0.45
Minimum illumination	@ F1.0	lux	0.05
	With illuminator IR		0
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC Off)
IR sensitivity		nm	700-1100
Synchronization			Internal
Video output			Ethernet on RG45/ Composite video signal, 1 Vpp 75 Ω on BNC
Audio output			PMC signal mono, 8KHz 1Vrms on RCA
Filter IR			Mechanical
Controls			
Auto Gain Control (AGC)			AGC/SAGC
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Electronic Shutter Speed (AES)			On (1/50-1/100.000 sec), Off (1/50) Manual (8 steps 1/50-1/10000 sec)

Noise reduction			auto DNR
Lens mount			CS with C adapter included
Autoiris			Video/DC selectable with 4-pole mount
Adjustment			DC and Vertical phase by trimmer
Network characteristics			
Bit-rate		Kb	28-3000 adjustable
Compression			MPEG4 ASP
Resolution			Full D1 /CIF /QCIF
Frame rate			real time, max. resolution (25 fps @Full D1)
Ethernet			10/100 Base-T for LAN networks
Supported protocols			TCP/IP, HTTP, ARP, PPPoE, DDNS, DHCP, RTP/RTSP, IGMP
Software			NVR max 16 cameras included (64 ch optional)
Software compatibility			Windows 2003, Windows XP, Windows Vista
Motion detection			3 zones which can be selected
General characteristics			
Power supply			12V/POE
Power consumption		W	6
Operating humidity		%	80 max
Operating temperature		°C	-10 to +50
Dimensions (lxwxh)		mm	121x63x52
Weight		g	400

IP Systems

IP systems

CD-V66VH-IP

New

CD-V66VH-IP

Professional vandal resistant camera designed and made to meet the increasing safety needs in sensible locations, such as airports, train stations, undergrounds, etc.

Protected by solid metal casing and a polycarbonate cap, it can resist impacts up to 656 kg.

The 540 TVL high resolution of the 1/3" Sony Super HAD sensor and DSP function guarantee excellent image quality. The 2.9-10 mm varifocal lens makes the installation quick and easy.

This camera is equipped with a double video output: an analogue output on BNC and Ethernet on RJ45 to guarantee extremely flexible use.

Its advanced features and the powerful management of the network make the camera suitable to all installation needs.

It can be fed with a 12V direct current or directly by means of the network using the POE.



Main features

- 1/3" CCD Sony Super HAD
- 540/570 TVL high resolution (Full D1/CIF/QCIF)
- DSP Sony HQ1
- Autoiris, AES, AGC, BLC, FL
- Bi-directional audio function
- vandalproof (impacts of 656,1 kg)
- 24 3D privacy masks (Pan, Tilt, Zoom)
- 2.9-10 mm aspherical varifocal lens
- MPEG4 ASP compression
- Multi-protocol
- NVR software included, max. 16 cameras (64 ch optional)
- Compatible with Windows XP and Vista
- Alarm input and output
- 12 Vdc power supply or POE (9W)
- Ceiling fixing support included

Item code			CD-V66VH-IP 918119
Video standard			PAL
Video sensor		type	CCD 1/4" Sony Ex View HAD
Effective Pixels (HxV)		no.	795x596
Horizontal Resolution	colour	TVL	540
	B&W		570
DSP			Sony HQ1
Minimum illumination	@ F1.2	lux	0.25
Signal-to-Noise Ratio (S/N)		dB	>50 (AGC off)
Synchronization			Internal
Video output			Composite video signal, 1 Vpp 75 Ω on BNC
Audio output			mono PCM signal (8KHz), 1 Vrms on RCA
Lens			
Lenses			aspherical
Focal length (f)		mm	2.9-10
Focus adjustment			manual, internal
Autoiris			galvanometric with internal manual adjustment
IR filter			-
Controls			
Auto Gain Control (AGC)			Auto
Auto White Balance (AWB)			On (2500-9200 °K)
Back Light Compensation (BLC)			On/Off
Flickerless (FL)			On/Off
Auto Electronic Shutter (AES)			On (1/50-1/100.000 sec), Off
Noise reduction			Auto DNR

Network characteristics			
Bit-rate		Kb	28-3000 adjustable
Compression			MPEG4 ASP
Resolution			Full D1/ CIF /QCIF (176x144)
Frame rate			real time, max. resolution (25 fps @Full D1)
Ethernet			10/100 Base-T for LAN and WAN networks
Supported protocols			TCP/IP, HTTP, ARP, PPPoE, DDNS, DHCP, RTP/RTSP, IGMP
Software			NVR max 16 cameras included (64 ch optional)
Software compatibility			Windows 2003, Windows XP, Windows Vista
Motion detection			3 zones which can be selected
Alarms		input output	1 (NO/NC) 1 (which can be activated by motion detection, from alarm input and remotely)
Audio		input output	1 1
General features			
Protection		degree	IP66
Vandalproof			resistant to impacts of 656,1 kgf (6424,1 N)
Power supply		V	12±10% / POE
Power Consumption		W	9
Operating Humidity		%	85 max
Operating Temperature		°C	-10 to +50
Dimensions (hxØ)		mm	112.2x140
Weight		g	950

Accessories	code	Description	
BCA-DOMEVAND-W	918041	Strong Aluminium bracket for easy vandalproof wall mounting of Dome cameras	
BCA-DOMEVAND-C	918040	Aluminium bracket for easy vandalproof in-ceiling mounting of Dome cameras	

IP Systems

IP systems

VIDEO-SERVER and VIDEO-RECEIVER

New

VIDEO-SERVER

VIDEO-RECEIVER

The video server is a device that allows one to connect to any analogue Fracarro camera directly to an IT TCP/IP network, such as a LAN local network or Internet. This device is very useful in turning the existing analogue video-surveillance installations into the most modern and flexible IP technology.

The reliable IP module generates a video audio multi-protocol MPEG4 flow. It is equipped with a number of advanced functions, such as motion detection, alarm management, and video settings, which can be easily used, thanks to the web interface or by using the powerful NVR software, which allows one to monitor up to 16 cameras.

The essential RS485 serial input allows one to connect to any PTZ camera and control it remotely by means of web interface and NVR software. If this product is used together with the videoreceiver-CH1, it is possible to transport the serial line and the alarm input by means of the IP network and connect them to the DVR and control keyboards.

The videoreceiver can be used together with any IP Fracarro camera to decode the video flow and switch it into analogue on BNC.



Main features

- High resolution (Full D1, CIF, QCIF)
- Bi-directional audio function
- MPEG4 ASP compression
- Multi-protocol
- RS-485 /RS-422 serial line
- NVR software included, max. 16 cameras (64 ch optional)
- Compatible with Windows XP and Vista
- 12 Vdc adapter included

Item code		VIDEO-SERVER 918117	VIDEO-RECEIVER 918118
Video Specifications			
Standard	type	Video composite signal, PAL / NTSC	
Input		1 Vpp 75 Ω on BNC	Ethernet on RG45
Output		Ethernet on RG45 + logout	1 Vpp 75 Ω on BNC
Audio Specifications			
Standard		PCM mono (8Khz)	
Input		1 Vrms on RCA	
Output		1 Vrms on RCA	
Network characteristics			
Compression		MPEG4 ASP	
Resolution		Full D1 /CIF QCIF	
Frame rate		real time, max. resolution (25 fps @Full D1)	
Ethernet		10/100 Base-T for LAN and WAN networks	
Supported protocols		TCP/IP, HTTP, ARP, PPPoE, DDNS, DHCP, RTP/RTSP, IGMP	
Software		NVR max 16 cameras included (64 ch optional)	-
Software compatibility		Windows 2003, Windows XP, Windows Vista	-
Motion detection		2 zones which can be selected	
Alarms	input output	2 (NO/NC) 2 (which can be activated by motion detection and remotely)	
General characteristics			
Power supply	Vdc	12	
Power consumption	W	7.5	3.8
Operating humidity	%	80 max	
Operating temperature	$^{\circ}\text{C}$	-10 to +50	
Dimensions (lxwxh)	mm	119x112x37	
Weight	g	350	

IP systems

Software NVR New

All IP Fracarro cameras are equipped with 2 management software programs, which are **NVR Professional** and **NVR Enterprise**.

Minimum technical specifications for workstations: Intel Core 2 Quad, 2.66 GHz, RAM 4GB, Hard Disk 250GB

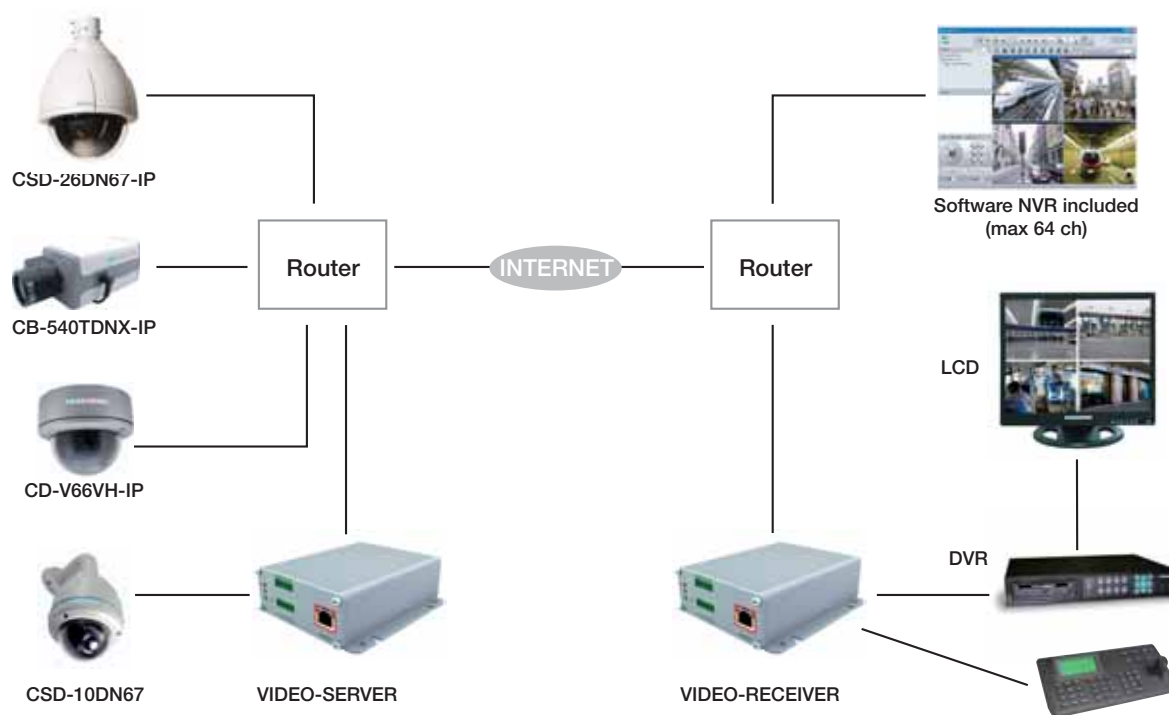
Operating Systems: Windows 2003 Server WSS 2003, Windows XP Professional SP3, Windows Vista Business Edition, Windows Vista Enterprise Edition

	NVR Professional	NVR Enterprise
Maximum number of cameras that can be managed locally	64	16 (expandable a 64*)
Maximum number of cameras that can be managed by WEB	0	16 (expandable a 64*)
Live view	Si	Si
Playback view	Si	Si
Management by graphic maps	Si	Si
Configuration management	Si	Si
Video reception from other NVRs	No	Si
Video flow sent to other NVRs	No	Si

* Please contact Fracarro to have quotations relevant to licences for additional channels.

Installation example

IP SYSTEMS



Monitor



LCD monitors

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Monitor

LCD monitors

LCD-P Series

High quality **LCD** monitor designed for professional video surveillance applications. The high contrast, the short response time and the very high luminosity provide excellent image quality for each one of the several video inputs. The 3D-comb filter and the dynamic noise reduction (DNR) guarantee images that are stable and without interference. Supplied with remote control table support. Optional wall bracket.

LCD-17P
LCD-19P



Main features

- 2xBNC, VGA, S-Video, YPbPr, DVI video inputs
- High contrast
- Integrated stereo loud-speakers
- Comb 3D filter
- Dynamic noise reduction
- 2xBNC, S-VIDEO loop-out
- Remote control
- Integrated adapter

Item code			LCD-17P 918032	LCD-19P 918031
Screen		“	17	19
Control			OSD Menu	
Resolution (HxV)		pixels	1280x1024	
Brightness		cd/m2	300	450
Contrast			1000:1	
Viewing Angle	horizontal	°	170	170
	vertical		160	160
Response time		ms	8	
Connections				
Video signal			video composite signal, 1 Vpp 75 Ω on BNC	
Input	video		2 BNC	
			1 VGA	
			1 S-Video	
			1 YPb Pr	
			1 DVI	
	audio		3 RCA	
Output	video	no.	2 BNC	
	audio		3 RCA	
Speaker		W	2	
General characteristics				
Power supply		V, Hz	110-240, 50/60	
Power Consumption		W	32	40
Operating Humidity		%	85	
Operating Temperature		°C	0 to 40	
Dimensions (lxwxh)		mm	386x338x70	458x372x77
Weight		kg	5	6.7

Accessories	code	Description	
BCA-LCD-P	918099	Standard wall bracket. VESA standard, can support max. 15Kg.	

LCD monitors

LCD-B Series

LCD-17VGA **New**
LCD-17B
LCD-19B

High resolution liquid crystal monitor with an excellent quality price ratio that is able to meet the most common monitoring needs. The LCD-17B and LCD-19B monitors are equipped with BNC video with loop-out, VGA and S-Video and integrate stereo loud-speakers. The LCD-17VGA monitor is equipped with the VGA input only. Practical management thanks to the OSD multi-language menu.



Main features

- BNC video input, VGA, S-Video (LCD-17B, LCD-19B)
- High contrast
- integrated stereo speakers
- Comb 2D filter
- BNC loop-out (LCD-17B, LCD-19B)

Item code			LCD-17VGA 918135	LCD-17B 918052	LCD-19B 918051
Screen		“	17	17	19
Control			Menu, VOL-, VOL+, On/Off		
Resolution (HxV)		pixel	1280x1024		
Brightness		cd/m2	300		
Contrast			700:1		
Viewing Angle	horizontal	°	140		
	vertical		160	130	130
Response time		ms	5	8	6
Connections					
Video signal			-	video composite signal, 1 Vpp 75 Ω on BNC	
Input	video		-	1 BNC	
			1 VGA		
	audio		-	1 S-Video	
			-	1 microphone input	
Output	video		-	1 BNC	
	audio		1 jack headphones		
Speaker	output	W	1+1		2+2
General characteristics					
Power supply		V, Hz	110-240, 50/60 (with adaptor DC 12V; 3,15A included)		
Power Consumption		W	25	35	45
Operating Temperature		°C	0 to +50		
Dimensions (lxwxh)		mm	370x191x324		419,5x191x368
Weight		kg	4	4.5	5

Accessories	code	Description	
BCA-LCD-P	918099	Standard wall bracket. VESA standard, can support max. 15Kg.	

Monitor

CRT monitor

CRT-21

These **CRT** Series cathode tube monitors offer an excellent quality image display, thanks to a high vertical resolution and a completely flat screen. The compact shape and the front keyboard make them suitable for controlling and monitoring centres with several monitors. They are equipped with an OSD that allows one to easily manage the settings of numerous video inputs

CRT-21



Main features

- Flat screen
- 2 BNC video channels with loop-out
- S-Video with loop-out
- 3 audio channels with loop-out

Item code			CRT-21 918029
Screen		"	21
Video signal			video composite signal, 1 Vpp 75 Ω on BNC
Video channels		input	2 BNC; 1 S-video
		output	2 BNC; 1 S-video
Audio channels		input	3 RCA
		output	3 RCA
Control		OSD	language, contrast, brightness, colour, geometry
		keyboard	volume, channel selection, on/off key
Resolution	NTSC	TVL	625
		PAL	720
Speaker output		W	3
General characteristics			
Power supply		V, Hz	220-240, 50/60
Power Consumption		W	75
Operating Humidity		%	90
Operating Temperature		°C	0 to 40
Dimensions (lxwxh)		mm	492x484x445
Weight		kg	26

Installation monitor

LCD-TEST3.5

New

LCD portable monitor designed to facilitate the installation of video-surveillance cameras. It is equipped with a rechargeable lithium battery (12V-1Ah), which ensures high operation autonomy. One-of-a-kind instrument able to test the correct operation of the installed cameras, even without a power supply, thanks to its capability to power supply them directly.

The 3.5" display allows one to see very high quality images under any light condition, thanks to a high contrast that can be adjusted and the integrated sunshield.

The sturdy leather box protects the monitor from impacts and scratches and guarantees its duration in perfect conditions.

Equipped with a shoulder belt and a Velcro band that allows one to wear it on the wrist. Equipped with a battery charger and connection cables for the camera's video, audio and power supply.

LCD-TEST3.5



Main features

- BNC video inputs
- High contrast, which can be regulated
- Contrast regulation
- Integrated stereo loud-speakers
- Possibility to power supply the camera directly
- Battery charger, shoulder belt and arm support included

Item code			LCD-TEST3.5 918116
Screen		"	3.5
Controls	dip-switch		on/of high/low brightness, high/low volume
Resolution		pixel	1024x768
Brightness		cd/m2	250
Contrast			400:1
Viewing Angle	horizontal	°	120
	vertical		110
Response time		ms	10
Connections			
Video input			video composite signal, 1 Vpp 75 Ω on BNC
Audio input			1 Vpp, 60 Ω on RCA
Speakers		W	0.25
General characteristics			
Power supply		V	12Vdc with battery included, 110-240, 50/60 with charger included
Power Consumption		W	3.6
Operating Humidity		%	80
Operating Temperature		°C	-20 to +70
Dimensions (lxwxh)		mm	94x38x85
Weight		g	280 without battery

Kits





Kits

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Kit

KIT SOLO

Unique in the market to propose a digital video recorder (DVR) "real triplex" and a 7" LCD integrated monitor, the kit SOLO includes a complete and easy-to-install video-surveillance installation in one package. The kit includes a 4-channel DVR with integrated LCD, an indoor colour camera, a fixing bracket, a connection cable, a mouse and a remote control. The system is equipped with 4-alarm inputs and a relay output to manage a siren and 4 sensors.

It is equipped with a hard disk of 160 GB that, thanks to a H264 powerful compression capacity (optimization of the current MPEG4), guarantees 7 days of continuous recording at the highest quality. Its autonomy can be further extended, thanks to efficient motion detection.

The Real Triplex function allows you to monitor the location under surveillance comfortably from your house through the Internet without interfering with the image recording.

The supplied camera is suitable to indoor and outdoor installations (IP66) and perfectly integrates a 18-LED illuminator to guarantee excellent shooting, even in darkness.

Compact and functional, the kit SOLO is ideal for shops, professional studies, receptions and for all those who want to increase their home security. The kit respects the privacy law.

The system can be easily enhanced by the KIT SOLO Cam, which increases the monitoring capacity up to 4 cameras.

KIT SOLO



Main features

- New powerful H264 compression
- Real Triplex (live, playback, remote connection)
- Graphic Multilanguage OSD and 2.0 USB
- 160 GB Hard Disk included
- Mouse and remote control included
- 4-alarm inputs and 1 relay output

Other features

- IR IP66 camera with 420 Tvl Sony CCD **New**
- 18 high efficiency LEDs
- Privacy. Limitation of recording days **New**
- Fixing bracket included
- 20 m special plug cable for video and power supply
- Adapter included

The kit contains (918201)

- 1 4-channel Real Triplex DVR with 7" LCD integrated monitor
- 1 160GB hard disk installed and formatted HDD-160S (918213)
- 1 outdoors compact camera with bracket CIR18-66 (918000)
- 1 power adapter 12V - 2 A PSU-12V2A (918002)
- 1 20 meters video and PSU cable CABLE2-20M (918004)
- 1 mouse
- 1 remote control with batteries
- 1 multi-language manual



Item code			KIT SOLO 918201
DVR technical specifications			
Video input			4 BNC type
Video output			2 BNC type (1 monitor/1 spot)
Operation			recording/playback/remote connection/live/backup
Video Standard			NTSC/PAL
Video signal		type	video composite signal, 1 Vpp 75 Ω on BNC
View resolution	NTSC	pixel	360x240
	PAL		360x288
Signal-to-Noise Ratio (S/N)		dB	>48
Recording features			
Speed	NTSC	fps	120 (360x240)
	PAL		100 (360x288)
Quality			very low/low/normal/good/excellent
Recording conditions			manual/programming/motion detector/alarm
Programming			recording time and speed
Compression			H264
Searching function			date/time/events
Hard disk		type	internal with SATA interface
	capacity max	GB	1x750 max (preinstalled and 160 GB formatted, 7200 rpm)
	recording		stop/overwriting
LCD features			
Dimensions		"	7
Screen Resolution			800x400
Pixel pitch		mm	0,1905x0,1905
Colour		million	262
Brightness		cd/m2	220
Contrast			300:1
Input			TTL/LVDS
Switch			frontal On/off
Live view			
Display Mode			cyclical/PIP/quad/single/pop-up
Display rate			real time
Zoom function			Available on live mode by mouse
Motion detector			720 detection areas with 7 levels of sensitivity
Network operation			
Network connections			TCP/IP
Ethernet	base-T	Mbit	10/100
Web interface			Client software & Internet Explorer (by DDNS Server)
Remote features			view/playback/control PTZ DVR management
General characteristics			
Alarm function	input	no.	4 (NO/NC)
	output		1 (NO/NC)
Serial communications			RS485 (D+, D-)
Audio channels	input	no.	1
	Output		1
Images export			USB 2.0/remote connection
Export software			Client software & Internet Explorer (by DDNS Server)
PTZ Control			Multi-protocol
Password protection			three levels
User Interface			remote control/mouse/ remote software
Power supply ~		V	100-240/50-60Hz with 12V/5.0A adapter included
Operating Humidity		%	<90
Operating Temperature		°C	+5 to +40
Dimensions (lxwxh)		mm	215x178x119
Weight	without hard disk	kg	2,6

Kit

KIT SOLO CAM

The **SOLO CAM Kit** is designed to expand the monitoring capacity of the SOLO kit, but it can be used with any DVR or Fracarro modulator.

Made up of 3 outdoor cameras, brackets, adapters and cables, the kit allows one to have 3 Fracarro cameras in just one package. The cameras can be installed both indoors and outdoors (IP66) and they integrate an 18 LED infrared illuminator, which guarantees excellent shooting, even in darkness.

Main features

- IP66 compact outdoors camera
- 420 TVL good resolution
- 18 high efficiency IR LEDs
- Fixing included brackets
- 20 meters special plug cables
- 2 A adapters included

The Kit contains (918202)

- 3 Sony compact outdoors cameras with CIR18-66 brackets (918000) **New**
- 3 12V-2A PSU-12V2A power adapters (918002)
- 3 20 meters plug cables for video and power supply, CABLE2-20M (918004)



KIT SOLO CAM

KIT DVR MJ

The **MJ DVR kit** contains, in only one package, the products needed to realize a video surveillance installation for small-medium size locations.

The DVR supports 4 cameras and is equipped with a 160 GB hard disk, mouse and

remote control. It is equipped with alarm inputs to connect 4 sensors that, together with motion detection, can manage 1 relay output.

The real Triplex function allows to monitor the controlled location directly from the house without interfering with the image recording.

The DVR-MJCH4 is equipped with an advanced double static/dynamic compression system that allows to record images with an excellent video quality (MJPEG) and simultaneously allows a reliable and smooth network connection (MPEG4).

To guarantee the maximum flexibility in the choice of the components, the kit includes only one camera with a colour Sony CCD supplied with fixing bracket and a 2A adapter. Its high protection level (IP68) makes it suitable for outdoor use.

The high definition LCD monitor makes the kit complete and efficient and guarantees fast and easy use.

Main features

- MJPEG & MPEG4 double compression
- Real triplex (recording, playback and Internet)
- 160 GB SATA Hard Disk included
- Graphic OSD menu and USB 2.0
- 4 alarm inputs and 1 relay output
- Privacy. Limitation of recording days **New**
- Mouse and remote control included

Other features

- 1 IR Sony 420TVL IP68 camera
- 1 18 high efficiency LEDs
- fixing bracket and adapter included
- 17" LCD with BNC and loop-out included **New**

The Kit contains (918203)

- 1 4-channel Real Triplex DVR with DVR-MJCH4 double compression system (918058)
- 1 160GB SATA hard disk installed and formatted HDD-160S (918213)
- 1 outdoor Sony compact camera with 18 LEDs and CIR14-68 bracket (918065)
- 1 12V-2A PSU-12V2A adapter (918002)
- 1 17" multi-medial high definition LCD monitor with BNC and LCD-17B loop-out (918052)
- 1 mouse
- 1 remote control with batteries



KIT DVR MJ

KIT DVR MJ CAM

KIT DVR MJ CAM

The **MJ CAM DVR kit** contains, in only one package, the products needed to realize a video surveillance installation for small-medium size locations, such as apartments, cafés, shops, etc.

The DVR supports 4 cameras and is equipped with a 160 GB hard disk, mouse and remote control. It is equipped with alarm inputs to connect 4 sensors that, together with motion detection, can manage 1 relay output.

The real Triplex function allows to monitor the controlled location directly from the house without interfering with the image recording.

The DVR-MJCH4 is equipped with an advanced double static/dynamic compression system that allows to record images with an excellent video quality (MJPEG) and simultaneously allows a reliable and smooth network connection (MPEG4).

To guarantee the maximum flexibility in the selection of components, the kit includes 2 Sony colour cameras with 4-9 mm varifocal optics. The IP66 protection and the bracket fitted with a cable raceway allow practical and safe installation of the cameras outdoors.

The PSU-12V2A adapters complete the Kit equipment.



Main features

- MJPEG & MPEG4 double compression system
- Real triplex (recording, playback and Internet)
- 160 GB Hard Disk included
- Regulation of recording days according to the privacy law
- Mouse and remote control included
- 4 alarm inputs and 1 relay output

Other features

- 1 IR Sony 420TVL IP66 camera
- 1 36 high efficiency LEDs
- New fixing bracket with cable raceway
- 1 4-9 mm varifocal (external regulation)

The Kit contains (918218)

- 1 4-channel Real Triplex DVR with DVR-MJCH4 double compression system (918058)
- 1 160GB SATA hard disk installed and formatted HDD-160S (918213)
- 2 IP66 Sony compact cameras with 36 LEDs, 4-9 mm varifocal lens and CIR36-EV66 bracket (918028)
- 2 12V-2A PSU-12V2A adapters (918002)
- 1 mouse
- 1 remote control with batteries included



Kit

KIT DVR 2000

The **DVR 2000 kit** is the professional solution for medium size installations. The kit is based on the powerful dual codec DVR-2000CH8 (JPEG2000-H264) with 8 video inputs and real time recording (200 fps). The DVR has 8 alarm inputs and 1 relay output and is supplied with 320 GB hard disk, mouse and remote control. CMS software included creates DVR networks to monitor various installations from one central unit. The installer can use the comfortable and intuitive multi-language menu, which can be navigated easily by means of the supplied remote control and mouse.

To guarantee extreme flexibility and fast installation, the Kit includes 2 Sony Day&Night colour cameras with high protection (IP68). Equipped with 2 A adapters.

Main features

- JPEG2000&H264 double compression system
- Real triplex (recording, playback and remote connection)
- Central monitoring system (CSM)
- Regulation of quality and frame-rate per channel
- removable Hard Disk
- VGA output
- Real time recording: 25 frames per second

Other features

- 1 IR Sony 420TVL IP68 camera
- 1 18 high efficiency LEDs
- IP68 high protection from bad weather conditions
- Fixing brackets and 2A adapters included

The Kit contains (918209)

- 1 8-channel Real Triplex DVR with DVR-2000CH8 double compression system (918008)
- 1 320 GB SATA hard disk installed and formatted HDD-320S (918214)
- 2 Sony compact cameras with CIR14-68 brackets (918065)
- 2 12V adapters (918002)
- 1 mouse
- 1 remote control with batteries included



KIT DVR 2000



KIT CAM 4

CAM 4 Kit is the ideal solution for those who want a complete, easy to install and extremely flexible camera system. It is made up of 4 Sony cameras, which can be installed both indoors and outdoors, guaranteeing the perfect operation under any weather condition, thanks to the very high IP68 protection.

Thanks to the electronic Night&Day system and the integrated (infrared 18-LEDs) illuminator, the colour cameras switch automatically to black and white to guarantee a good view, even at night.

All cameras are equipped with a sunshield, brackets and fixing screws for a fast installation.

Main features

- IR compact outdoor IP68 Sony camera
- 420 TVL good resolution
- 18 high efficiency LEDs
- Fixing brackets included
- 2 A adapters included

The Kit contains (918204)

- 4 outdoor compact Sony cameras with CIR14-68 brackets (918065)
- 4 12V – 2A PSU-12V2A adapters (918002)



KIT CAM 4



KIT VENEZIA

New

The **VENEZIA kit** is the ideal solution to make a professional and complete video-surveillance installation for small sized locations, such as apartments, cafés, shops, etc. The DVR supports 4 cameras and is equipped with a 250 GB hard disk, mouse and remote control. It is equipped with alarm inputs to connect 4 sensors that, together with motion detection, can manage 1 relay output. The images can be controlled by means of a monitor and any mobile phone or smartphone. The IP66 protection and the bracket fitted with a cable raceway allow practical and safe installation of the cameras outdoors.

Main features

- Esaplex (recording, live, playback, Control, Backup and remote connection)
- Mobile phone/PDA connection
- H264 hardware compression and VGA output
- Recording, live and playback in real time
- Full-D1 resolution (720x570)
- Privacy: limitation of the hours of permanence of data and watermarking codification system
- Remote control and optical USB mouse included

Other features

- 1 outdoor 420TVL camera
- 36 high efficiency LEDs
- Fixing bracket with cable raceway
- 4-9 mm varifocal optics with external regulation
- 17" LCD monitor with VGA input

The Kit contains (918224)

- 1 4-channel Esaplex DVR with H264 DVR VENEZIA (918121)
- 1 250 GB SATA hard disk installed and formatted HDD-250S (918221)
- 17" LCD-17VGA multi-medial high resolution monitor (918135)
- 2 IP66 Sony compact cameras with 36 LEDs, 4-9 mm varifocal lens and CIR36-EV66 bracket (918028)
- 2 12V-2A PSU-12V2A adapters (918002)
- 1 optical USB mouse
- 1 remote control with batteries included



KIT VENEZIA CAM

New

The **VENEZIA CAM kit** is extremely compact and affordable; thanks to the high technology of its components, it allows one to improve the old video-surveillance installations and increase their protection level.

Main features

- IP68 420 TVL outdoor Sony camera
- 18 high efficiency LEDs
- Wide angle view 3.6 mm
- Fixing bracket included

The Kit contains (918226)

- 1 4-channel Esaplex DVR with H264 DVR VENEZIA (918121)
- 1 250 GB SATA hard disk installed and formatted HDD-250S (918221)
- 2 IP68 420 TVL Sony cameras with 18 LEDs, 4.3 mm and CIR14-68 bracket (918065)
- 2 12V-2A PSU-12V2A adapters (918002)
- 1 optical USB mouse
- 1 remote control with batteries included



Glossary

AAES: Auto Electronic Shutter. In medium-low light conditions, the reading of pixels occurs 50 times per second (in PAL). When the luminosity increases, the electronic shutter increases the detection frequency and discharges the pixels that otherwise would be overcharged because of the large amount of light.

Thanks to the AES, the reading of pixels can even last 1/10000 or 1/100000 per second, if necessary, but 50 frames per second are always supplied at the output, like in normal conditions.

Therefore, the Electronic Shutter circuit follows the luminosity of the environment and accelerates the reading frequency when the luminosity increases so that it prevents the pixels from being overexposed to the light and the camera provides a faded image.

AF: Auto Focus. This function allows the camera to automatically focus a part of the image. This function is very useful for cameras with variable zoom because it allows a proper focus of every frame.

AGC: Automatic Gain Control. It is an electronic function made to always keep the electrical value of the video signal at its optimal value (1 Vpp).

ALC: Automatic Light Compensation. It is a photometric adjustment of the lens and is similar to the backlight compensation of a camera. It adjusts the signal reference level

according to the image contrast and has two extreme ends: Peak and Average. If there are very luminous points, they usually cause the diaphragm to close so that dark objects will be even darker and it will be difficult to distinguish them. In this case, it is possible to use the ALC to make the lens open more than normal (to the Peak position). If it is necessary to see the most luminous part better, the ALC should be adjusted to the Average position to make the lens closer than normal. The ACL adjustment will only affect high contrast images.

This regulation must be performed with AGC= OFF.

F opening: the opening of the lenses controls the amount of light that reaches the surface of the CCD device. The F value provides the indication of the iris opening: the higher the F number, the less value of the iris opening as well as less light that passes through the CCD. By indicating with a 1 the amount of light passing when the diaphragm is completely open, the following will be given:

F1.2 corresponds to $1:1.2 = 0.83$ it means 0.83 of light passes (83%)

F1.8 corresponds to $1:1.8 = 0.55$ it means 0.55 of light passes (55%)

F90 corresponds to $1:90 = 0.011$ it means 0.011 of light passes (1.1%)

ATM / POS: these devices are able to manage financial transactions (ATM = Automated Teller Machine, such as Bancomat and POS = Point Of Sale, which means payment systems with credit/debit cards used in the shops all over the world).

The new MILANO DVRs can be interfaced (the option is available upon request) with these devices to include the details of the financial transactions in the videos. This allows one to use the MILANO DVRs to check the regular developing of particular transactions carried out in Bancomat locations and work desks equipped with POS.

C and CS mounts: the lens is screwed on the front of the

camera

in front of the optical sensor (CCD). That is why the cameras are equipped with a threaded hole where the lens is screwed on. The back of the lens screwed onto the camera is called a "mount". There are two types of mounts:

- CS MOUNT LENSES

It needs a 1" hole to be screwed to the lens. The distance between the back of the lens and the focal point (where the CCD is located) is of 12.5 mm. Today they have replaced the C mount because they have more compact dimensions. The CS mount is used with Fracarro lenses.

- C MOUNT LENSES

They are mounted in the same 1" hole of the CS lenses. The difference consists of the distance between the back of the lens and the focal point that is of 17.526 mm. That is why the lenses with a C mount need a spacer ring of 5 mm. This ring is supplied together with the Fracarro box cameras, even if Fracarro only offers lenses with CS mounts.

Autoiris (AI): The auto-iris lenses can automatically adapt to different light conditions and modify the opening of the diaphragm, or the hole through which the light passes through the lens and reaches the optical sensor (CCD).

There are two auto-iris lenses available on the market and they are the "Video Drive" and the "DC Drive". The Video Drives operate through the video signal that comes from the camera. They can be easily recognized because there is a three-wire connection (video, feeding and ground). Their operation can be adjusted by the ALC and Level potentiometers. The DC Drives operate with two coils: a driving coil that opens and closes the diaphragm and a damping coil that contrasts the diaphragm movement in order to control the movement stability. In this case, there is a 4-wire connection. The cost of these lenses is lower because they are not equipped with the amplifier that is in the camera. The Fracarro auto-iris lenses are all of the DC Drive type because all the Fracarro box cameras can also control this standard.

AWB: Auto White Balance. This function allows one to have natural colours with any type of light, thanks to the automatic adjustment of the output colour.

BLC: Back Light Compensation. It amplifies selective parts of the image to compensate for the excessive contrast variations when only one part of the image is strongly lit (for example, a person standing on a door threshold lit by the sun). In this manner, the background is overexposed to display the subject correctly in the foreground.

CCD: Charge Coupled Device is the optical sensor of the camera that allows one to turn the image coming from the lens into electrical current and then into a video signal. It is an integrated circuit made by a photo-sensible surface subdivided into several portions (pixels). For each pixel, a monochromatic CCD can accumulate a number of electrical loads that is proportional to the light that reaches it. The process is similar for the colour CCDs, but each pixel is shared in subpixels with a sensibility that is exclusively limited to the red, green and blue components. The CCD sensibility is deeply related to the physical dimensions of the sensor and its resolution because the bigger the pixel, the more light it will capture. Usually dimensions are in inches.

CMS: Central Monitoring System. It is software that allows the central management of several DVRs through an Internet connection. Thanks to this function, one operator is sufficient in order to control different locations from one desk. This function solves the problems of TVCC installation

expansibility. The Fracarro DVR-2000 Series is equipped with this function as well as the DVR-REALCH16, but the two CMS software packages are dedicated and can be used only with the relevant products.

Static and dynamic compression: Digital codification technologies based on mathematical algorithms to reduce the amount of information necessary to file and/or transmit the audio-video flows.

The data reduction is carried out on the basis of statistic considerations that allow the elimination of a portion of information unimportant to the algorithm. The compression algorithms can be classified as static and dynamic and they differ for their capacity of reducing the data and the final quality of the video. In general, the static codification (based on the differences between the pixels of the single frames such as MJPEG and JPEG2000) needs a larger space for filing, but it ensures a better quality than the dynamic codification (based on the combined analysis of the single frames and the following frames, such as MPEG4 and H264).

PTZ controller: the PTZ (Pan Tilt Zoom) controller is made by a serial RS-485 (D+, D-) connection by which the PT cameras can be managed. All the Fracarro DVRs are equipped with this function and, therefore, can be used to control any type of speed-dome (the Fracarro CSD Series is also included) and/or PT camera that supports the Pelco-D or Pelco-P Protocols. The new MILANO and VENEZIA DVRs are designed to completely integrate with all Fracarro speed dome cameras and even supply an easy PAN control with the mouse.

Gamma correction: The gamma correction is used to codify the linear luminance (or the RGB values) in an analogue video signal (or of fair values of the digital video); the gamma expansion is the inverted process and occurs largely in the non-linearity of the electric beam current/voltage curve of the CRTs, which act like a natural decoder. The gamma codification helps to maintain the data (both analogue and digital) in a uniform domain from the perceptive point of view. A picture tube converts the video signal into light in a non-linear manner because the phosphorescent screen used as a display is a non-linear device.

Day&Night with IR mechanic filter: Day&Night cameras with IR mechanical filter are the best solutions for shooting in any light condition because they guarantee both colour fidelity and high sensibility. They are equipped with an infrared filter placed in front of the CCD sensor, which, during the day, ensures the fidelity of the colour because it can eliminate infrared. When the luminosity is under a specific threshold, this filter is mechanically removed to guarantee the passage of all the colour components and, consequently, maximum camera sensibility is obtained.

Day&Night: The colour cameras, as opposed to the monochromatic cameras, can not work in darkness. But the day&night cameras are able to offer a colour signal in conditions of good light (by day) and turn themselves into monochromatic cameras in poor light conditions (at night).

DDNS: Dynamic Domain Name Solver. The DDNS services provide automatic conversion of an IP dynamic address in a DNS name (or number). Therefore, it is possible to get connected by using fixed names, regardless of the IP address assigned by the service provider. Without the DDNS service, the users must use the static IP of the DVRs to get connected. The DDNS service is very convenient and

comfortable because the user can often use only one dynamic IP free of charge.

DHCP: Dynamic Host Configuration Protocol. It is used to assign IP addresses to the network calculators. In a network based on the IP protocol, each calculator needs an IP address.

The IP address must belong to the subnet work to which it is connected and it must be unique; this means that no other calculator is already using that address. If a DHCP server is present, every network apparatus that supports this protocol (like all Fracarro DVRs) will be able to automatically acquire the network address so that the installation will be easy and flexible.

DSP: Digital Signal Processor. In the event of a camera with DSP, a microprocessor is used instead of analogue integrated circuits to process the CCD video signal. A DSP microprocessor improves the image quality and allows several functions, such as Back Light Compensation, which could not be carried out without it. The main advantages of the DSP colour cameras, as regards analogue cameras, are the following: a more defined image with clearer and more precise profiles, noise reduction, regulation and manipulation of the image for the automatic correction of defects in real time, better quality, and fidelity of colours in any light condition.

DVR: Digital Video Recorder. It is a device able to digitalize, compress and record video flows relevant to one or more analogue cameras. The Fracarro DVRs also transmit the images on a Ethernet network to guarantee a remote monitoring of the area under video-surveillance.

Esaplex: an advanced characteristic of the new Fracarro DVRs (Milano and Venezia). The new technology of these DVRs allows one to have complete control of the TVCC system because they can perform 6 simultaneous functions, such as recording images onto a hard disk (Recording), displaying live images (Live), reproducing videos (Playback), controlling DVR settings (Control), exporting previously recorded data (Backup), and Connecting to remote users by means of the Ethernet network (Network).

eSATA: eSATA interface is the new standard of serial communication that is faster and more efficient than USB and can reach up to 3Gb/sec, doing even better than the modern Firewire™ (IEEE 1394). Fracarro integrated this new connection in the MILANO (9 and 16 channels) DVRs to allow recording onto external hard disks to expand the recording autonomy.

Exview HAD: a CCD sensor properly made by Sony to improve sensibility. It can double the sensibility of the vision and quadruple the sensibility in infrared. The technology patented by Sony is based on a special doping of the NP junctions of the photodiodes able to optimize the efficiency.

FPS: Frame Per Second. A measurement unit used to indicate the quantity of recorded or transmitted or displayed frames per second. In the PAL standard, each camera provided a maximum of 25 fps (real-time). Typically, 6-10 fps are recorded per camera in order to guarantee a smooth playback and autonomous recording.

FTP: File Transfer Protocol is based on the TCP. This protocol allows the enabled Fracarro DVRs (MILANO and VENEZIA DVRs) to automatically send the images to a dedicated ftp

server when an event occurs.

IP protection level: The IP (International Protection) code is defined in the EN 60529 regulation to classify the protection level of the cases of electric and electronic devices against any risk of liquids or solid object penetration. The IP prefix is followed by two digits: the first digit shows the protection against contact with external solid objects and the access to dangerous parts; the second digit shows the protection against the penetration of liquids. Important examples are the following: IP66 (total protection against dust and heavy rain), IP67 (total protection against dust and temporary immersion) and IP68 (total protection against dust and long immersion).

H264: also known as MPEG Part 10, it is the latest generation of dynamic digital video compression that allows a very high compression level without compromising the video quality. As regards the previous MPEG4 versions, H.264 compression eliminates the "pixeled" effect and keeps images clear and defined. The great compression capacity allows one to record high resolution videos with a minimum space on the Hard Disk and greater smoothness of transmission on the Ethernet network.

JPEG2000: It is the most recent and performing algorithm of static compression that is properly developed to optimize the JPEG (and, therefore, the MJPEG) to increase the video quality and to reduce the filing space. It is based on the transformed Wavelet that ensures a great reduction of the mosaic effect, which is typical of the pixel block compression. This ensures excellent playback that is essential for the analysis of the recorded images in order to recognize faces, number plates and any other important details. Fracarro proposes a complete family of DVRs based on this innovative compression system that is destined to become the new solution in professional digital videorecording.

Aspherical lenses: These particular types of lenses are used to make objectives able to reduce spherical aberration (it means the lens refracts rays, which pass through it in the centre and in the edges, in a different manner). The introduction of the aspherical lenses allowed the focusing of light rays on a unique point. The aspherical lenses, made of optical glass, still need a partially manual working, which increases their cost.

Level: It is a regulation of the lens sensibility to the video signal level variations and it has two extreme positions: H (high) and L (low). If the potentiometer screw is adjusted to H, the image will be brighter and vice versa. This regulation must be carried out with AGC=OFF.

Focal length: The focal length, usually indicated by "f", is the distance between the lens surface and the convergence point of the light illuminated by a parallel beam of light; it is measured by the infinite focusing. The camera focusing consists of regulating this distance (by the lens focus) so that the luminous rays are exactly focused on the CCD surface. The focal length of the lens is inversely proportional to the shooting angle. For example, with the wide-angle lenses that have a very short "f" (about 2-4 mm), it is possible to have a very large field and, therefore, a panoramic image.

Interactive graphic maps: New Fracarro Milano and Venezia DVRs are equipped with a software that allows one to display all information relevant to the video-surveillance system on the PC. By importing an image file (.bmp / .jpg)

and positioning the cameras on the map, it is possible to immediately have a clear view of the system status; each area of the map can be easily controlled with just one click. Besides seeing the cameras, the DVR alarms can be monitored and the active outputs can be checked; therefore, it will be possible to deactivate lights, irrigations, heating system, etc. Furthermore, it will be possible to have a bidirectional audio communication, to manage speed-dome cameras and carry out the playback and backup. This software (included in the price) allows one to connect up to 10 DVRs as it is the professional tool able to manage the installation completely.

MJPEG: Motion JPEG is a static video codec where each video frame is compressed in a JPEG image (currently it is the most used image compression standard). It means that the compression quality is independent from the motion in the video (differently from the dynamic compressions where the quality decreases when the video contains several sequences of fast movements). This codec makes the video mounting easier since it allows a cut on each frame and not only at the beginning of a group of frames.

Motion Detection: an image analysis system able to detect the movements in the areas under video-surveillance. All the Fracarro DVRs and Quad allow one to set a different area for each camera so that false alarms are avoided. This function is used often to optimize the space on the hard disk (motion recording), to control the display on monitors (pop-up of the motion cameras) and possibly to enable the alarm output.

MPEG4: standard of dynamic compression with high capability to reduce the data. The algorithm produces a group of compressed frames shared in intra-frames (I-frame) and inter-frames (P-frames and B-frames). In the intra-frames, each image is compressed independently from the other frames (like in the static compression) and the image is more precise and heavier for network applications.

The second inter-frame type carries out a compensation in the variation of the movement analyzing the difference between the following images. That way, the filing space is greatly reduced and the rating of the frames during the playback is difficult because they can be identified only through intra-frames.

NTSC: National Television Systems Committee. It is the video format used in America. It is based on a feeding frequency of 60Hz and that is why it foresees a number of frames per second equal to 30 (60 fields per second). The number of horizontal lines making up each frame is 525.

NVR: Network Video Recorder, is a device able to receive the video flows from the IP cameras and file them. The NVRs can be either software (for the installation on a normal PC) or hardware.

Each IP Fracarro camera is equipped with NVR software able to display/record/manage up to 64 locally connected cameras. Software manages up to 32 cameras distributed on the territory and connected by means of the Internet.

OSD: On Screen Display. It is a function used to make the user's interface of complex electronic devices such as DVRs, Speed dome etc., intuitive and fast.

PAL: Phase Alteration Line. It is the most diffused video format in Europe. It is based on a feeding frequency of 50Hz and that is why it foresees a number of frames per second equal to 25 (50 fields/sec.). The number of the horizontal

Glossary

lines making up each frame is 625.

PDA: Personal Digital Assistant, this name is given to small palmar devices that combine IT, Internet and network functionality. A typical PDA can work as a personal organizer and a Web browser. This functionality allows one to easily connect to the new Fracarro DVRs (Venezia and Milano) and see the images of all cameras as well as monitor the alarm status and activate the output relays.

The connection is easy and immediate and does not need specific software: you just have to connect the DVR to the Internet, enter the IP address (or hostname) and input the password.

PIP: Picture In Picture. It is a special display function that allows one to monitor several cameras simultaneously on the same monitor by creating a superimposed window where it is possible to display another object, besides the one, on full screen.

POE: Power Over Ethernet is a technology that transports electrical power by means of LAN network cables. The operation principle of the PoE is easy. The cables of the Ethernet and Fast Ethernet networks are made of four pairs of wires, two pairs are used to transmit data while the other two free pairs provide the power supply. The characteristics of the PoE devices are specified by the IEEE 802.3af standard.

PPPoE: Point-to-Point Protocol over Ethernet. A new option for the high speed Internet connection. The DVRs that support this protocol can be connected directly to an ADSL modem without passing through PCs, networks or routers.

Quad: is a device that allows one to simultaneously display images coming from 4 cameras onto a unique monitor. The compact dimension of each quad does not allow one to monitor the various areas easily. That is why the Quad function allows one to display on full screen each camera with a button or an associated alarm input. The Fracarro QUAD-COL model is equipped with several advanced functions, such as a video output for the DVR, an electronic zoom, 4 inputs for the alarm sensors, 1 relay output and motion detection.

Real Triplex: this function is common to all the Fracarro DVRs and allows one to continue the recording even when the films are reproduced or during access from a remote PC. The new DVRs Fracarro MILANO and VENEZIA have been improved even more to manage up to 6 operations simultaneously (see Esaplex).

RG59: coaxial cable with 75 ohm impedance commonly used in the TVCC installations.

Resolution: measurement of the smallest detail that can be displayed in an image. In the analogue systems, the measurement is usually carried out in TV lines (TVL). Fracarro proposes cameras with a PAL standard (therefore, with a vertical resolution of 625 lines) and with horizontal resolution included between 380 and 600 TV lines.

Motion detector: see Motion Detection

S/N: Signal/Noise that is the signal noise ratio. This parameter (expressed in dB) indicates how much the background noise generated by the CCD affects the video signal. It is a parameter that must be indicated and evaluated when the AGC is not connected. It is essential, above all, for the performance of the camera in poor

luminosity conditions.

Composite video baseband signal (CVBS): the composite video is a type of analogue signal that transports all image information into a unique signal. This signal contains all information of the image synchronism and colour together with the luminance video signal (black and white) with a spectrum up to 5.3 MHz and colour with centre of band at 4.43361975 MHz in the PAL system of 625 lines. It is transmitted by RG59 coaxial cables or similar with a characteristic impedance of 75 Ω . The typical amplitude of a CVBS signal is 1 Volt peak to peak (Vpp).

Sensitivity: the parameter indicates the camera's capability to provide a good output level, even in poor light conditions. The higher the camera's sensibility, the more luminous the shooting in the dark is. The sensibility is expressed as an amount of light (for example, 0.25 lux) that is necessary to obtain a specific output level once the lens luminosity has been fixed (for example @F1.2). However, it is important to point out that, regardless of the specification datum of the camera, the real luminosity of the images depends on several factors, such as the reflectance of the materials present in the scene, the position and direction of the camera and the presence of illuminators (visible or infrared) illuminators.

Slow Shutter: function of a few cameras that are used to increase the sensibility in poor light conditions that is obtained, increasing the exposure times.

Smartphone: Smartphones are devices that integrate the functions of a mobile phone with the most common PDA functions. They allow the users to save information, consult emails, install programs, navigate the Internet, download and listen to music and make phone calls. Also these terminals, as well as PDAs, allow the connection to the new Fracarro DVRs (Venezia and Milano) and see the images of all cameras as well as monitor the alarm status and activate the output relays. The connection is easy and immediate and does not need specific software: you just have to connect the DVR to the Internet, enter the IP address (or hostname) and input the password.

Smart Search: useful in searching images recorded by the new MILANO and VENEZIA DVRs. The application allows one to select a time range (for example, the last two days) and the desired area per camera (for example, the shelves of a shop with displayed goods) and find only the sections of the video that have recorded a movement in those areas (in this case, the persons who touch the goods on the shelves can be identified easily).

Super HAD: increases the CCD sensibility; the pixels are covered by special micro lenses able to capture the maximum amount of light. The SuperHAD is the latest generation of this technology. The refined constructive technology allows one to reduce and almost eliminate the space between one lens and the other with an advantage for the CCD luminosity. The lenticular surface of the CCD Sony SuperHAD uses all available light and avoids the gaps present in traditional CCDs. That way, the cameras are more and more luminous and can operate in poorer and poorer light conditions. Almost 90% of Fracarro cameras are based on this sensor.

S-Video: Separate video, shortened in S-Video, also known as Y/C. It is an analogue video signal that transports video information by means of two separate signals (brightness and colour); it is different from the composite video that

transports information in one signal. In the composite video, the luminance signal is filtered step-by-step with the loss of information. The S-Video has components well separated and does not need filtering so that the quality of images is much better than with composite video. This is why Fracarro has recently integrated this standard in the MILANO DVRs that, besides the BNC and VGA outputs, are also equipped with the traditional S-Video 4-pin mini-DIN connector with 75 ohm impedance.

TCP/IP: Transmission Control Protocol/Internet Protocol. A communication protocol that provides two data transmission methods. The TCP is a protocol based on the connection that guarantees the arrival of complete and unaltered data. UDP is a protocol not based on the compression that limits itself to send data packages. The UDP protocol is usually used for support streaming, whilst the TCP protocol is used when a reliable data transmission is needed.

UTP: Unshielded Twisted Pair. The cable is typically made up of 8 copper wires twisted in pairs. The wire twisting aims at reducing interference and disturbance by taking advantage of the transmission on a balanced line. The UTP twisted pair is used often for cabling LAN networks and, with the use of the proper converters, it can be an excellent alternative to the usual RG59 in TVCC applications.

Varifocal: particular lenses that allow one to vary manually the "f" focal length. Therefore, during the installation phase, the user can regulate the visual field of the camera. The focal length regulation must be performed together with the focus to guarantee focal images (see definition of focal distance). All the Fracarro lenses for Box cameras are varifocal and available in the manual iris or autoiris version.

WDR: Wide Dynamic Range, is an advanced function that allows one to maintain the correct contrast and to ensure high quality and detailed images, even in difficult light conditions. The image is shared into several independent areas and each one of them is treated separately to optimize the video quality. It is very useful in the event of very powerful light, such as the sun, powerful backlight or areas in shade. The typical useful example to explain the value of this technology is the capability to read the car number plates while their lights are on.

VGA: Video Graphics Array is a high resolution analogue video standard that is used often to connect the computer to the monitor. The VGA standard connection between the PC and the monitor ends with a 15-pin male plug. The word VGA is also used to refer to the 640_480, QVGA (320_240), QQVGA (160_120) resolutions. The VGA outputs of Fracarro DVRs can have very high resolutions (1280x1024) with 16.8 million colours (True colour).

Watermarking: a digital technique that allows one to permanently mark any electronic document without modifying its contents. By means of this "mark", each file can be detected later or extracted to have information relevant to its origin and provenience. Fracarro has applied this technique to video-surveillance systems and developed an algorithm able to show the authenticity of the videos recorded by the new MILANO and VENEZIA DVRs.

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